Sunjosjin Rajah. 1829

2646

THE

ELEMENTS

OF

USEFUL KNOWLEDGE,

IN SEVEN BOOKS:

Comprehending short Systems of

NATURAL PHILOSOPHY AND ASTRONOMY,

GEOGRAPHY AND METALLURGY,

CHRONOLOGY, BIOGRAPHY, MYTHOLOGY,

GOVERNMENT, AND RHETORIC.

'o be read in turns, with such approved Selections as are generally used in Schools; and to be chiefly committed to Memory.

By the Rev. J. ADAMS, A. M.

uthor of a new HISTORY of ENGLAND, on the Plan of Dr. Henry, 'ISTORY of ROME, the ELEMENTS of READING, and LECTIONES LECTÆ.

THE FOURTH EDITION,

'uch improved and enlarged by the Insertion of late memorable Events.

"Sweet is the task to rear the tender mind,
"And teach the young idea how to shoot."

"The taking a taste of every sort of knowledge is necessary to m the mind, and is the only way to give the understanding its due provement to the full extent of its capacity." LOCKE.

LONDON:

inted for F. C. and J. RIVINGTON; C. LAW; LONGMAN, HURST, REES, and ORME; and R. S. KIRBY;

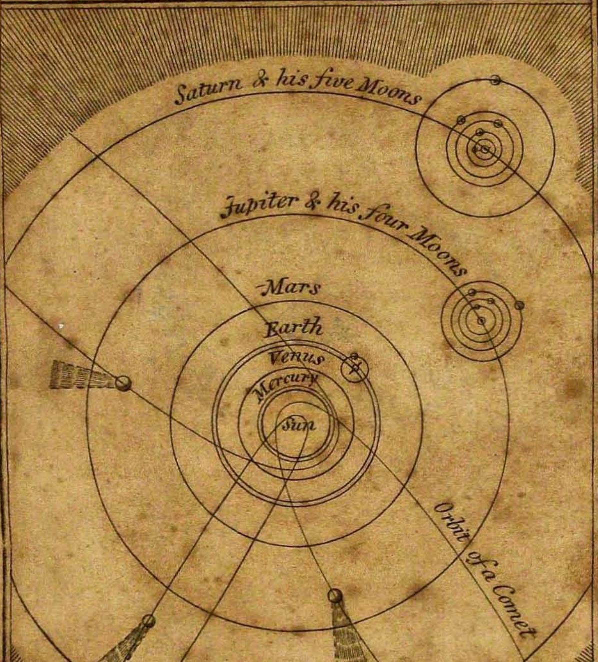
By T. SKELTON, No. 22, High-Street, Southampton.

1806.

2646

To face the Title.

THE SOLAR SYSTEM.



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THE TANJORE MAHARAJA SERFOGI'S SARASWATI MAHAL.
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ADVERTISEMENT

TO THE

PRESENT MUCH IMPROVED EDITION.

IN our intercourse with the world, general knowledge is a great recommendation. It gives mankind a favourable opinion of the understanding of those who possess it, and is the source of much satisfaction. To lay the foundation of such knowledge, in early youth, is therefore highly necessary, as well as to take every future opportunity of raising the superstructure.

To promote the culture of the mind is the design of the following performance; and the Author flatters himself, that the perusal of it will give young people a true relish for useful and polite literature. Encouraged by the reception given to a former large impression, which exceeded his most sanguine hopes, he has revised and newly arranged the subjects treated of in this edition, corrected several chronological errors, and inserted *the late re-*

markable occurrences to the commencement of the year 1806.

The Book of *Biography* now contains the lives of *eighteen eminent British characters*, by the perusal of which the rising generation may learn to be wise and virtuous.

The introductory chapter, composed at the request of several eminent instructors of youth, and *never before printed*, will be deemed a considerable improvement. Besides a particular account of the several branches of the work, many sentiments will be found in it which ought to be deeply impressed on young minds. Both the language and the idea are suited to their capacities. While they read for their amusement their hearts will become better.

No book, perhaps, of the same price, contains a greater variety of important information to youth of both sexes. The Author has only to add, that if, during the sale of the present impression, he shall be furnished with any fresh hints for its still greater improvement, he will not fail to make a proper use of them in the next edition.

INTRODUCTION.

WHEN the Author sat down to write on the principles of knowledge and polite learning, it was his design that the work should be of such a nature, as might excite curiosity by its variety, encourage diligence by its facility, and reward application by its usefulness. The youthful mind, like the Athenians of old, is always eager after *some new thing*. It is therefore proper to scatter in its way such allurements, as may regulate it without violence, and direct it without restraint; such as may suit every inclination, and be adapted to every capacity.

Human knowledge has been distributed by philosophers into more or fewer divisions, according to the views which they have taken of the various subjects of enquiry. The great lord Bacon's partition of it is into history, poetry, and philosophy, which he refers to three different powers of the mind, memory, imagination, and reason. Memory stores up facts, or ideas, which are the materials of knowledge. Imagination ranks and combines them; while reason observes their nature, connection, and mutual relation. The last is the proper business of *Philosophy*, which has been defined "the knowledge of whatever exists," and with which this compendium of useful science commences.

It is impossible to contemplate the works of God, without perceiving a beautiful variety of objects, which teach us to admire and adore the wisdom, power, and goodness of the great Creator. In the summer, we behold the meadows enamelled with innumerable plants and flowers, the

fields waving with corn for the use of man, the woods, forests, plains, and mountains, differently adorned, while ponds, lakes, or winding rivers, vary the charming scene. In winter, the forests are naked. Nature, as it were, suspends her productive power. The air is severe and piercing. The falling of the fleecy snow, and the freezing of the water, excite our attention.

> " In winter awful *Thou*, with clouds and storms around Thee
> " thrown !
> " Tempest on tempest hurl'd ! majestic darkness !
> " On the whirlwind's wing riding sublime,
> " Thou bid'st the world adore,
> " And humblest nature with thy northern blast* !"

If we look out at night, when darkness conceals the surface of the earth, we shall find this temporary loss made up to us by those glorious stars that glitter in the magnificent canopy of heaven ; and if the moon appears, her mild and friendly rays enlighten the silent scene, and give a fainter day. In short, whatever be the season of the year, whether chearful spring, warm summer, rich autumn, or cold winter, things worthy of our notice are at hand. Knowledge of this kind may truly be called learning, in the study of which young people of both sexes may always employ their leisure hours with pleasure.

No science affords more noble, wonderful, and pleasing scenes, than *Astronomy*. It furnishes an elegant entertainment to the understanding, as well as to the eye.

> " Th'unwearied sun, from day to day,
> " Doth his Creator's power display,
> " And tell abroad to ev'ry land,
> " The works of an almighty hand.
>
> " Soon as the ev'ning shades prevail,
> " The moon takes up the wond'rous tale,

* Thomson.

"And nightly to the listening earth
"Repeats the story of her birth:

"While all the stars that round her burn,
"And all the planets in their turn,
"Confirm the tidings as they roll,
"And spread the truth from pole to pole*."

"In the beginning God created the heaven and the earth." By his power and wisdom the planets were set in motion. He impressed upon them the power of *gravitation*, by which they hang self-balanced in their orbits, and require nothing but this amazing principle for their support.

"Heaven is a *book*; the stars are *letters* fair;
"God is the *writer*; men the *readers* are."

By *Geography* and *Metallurgy*, of which the second book treats, we are made acquainted with the different nations, cities, seas, rivers, and mountains on this earth, and with the metals contained in the bowels of it; and, as Dr. Watts justly observes, "there is not a son nor daughter of Adam whom such information does not concern."

The study of *Chronology* and *History*, treated of in the third book, seems to be one of the most natural delights of the human mind. It is not easy to live without inquiring by what means every thing was brought into the state in which we now behold it, or without feeling some desire of being informed concerning the generations of mankind, that have been in possession of the world before us; whether they were better or worse than ourselves; or what good or evil has been derived to us from their schemes, practices, and institutions. These are inquiries which history alone can satisfy; and history can only be

* Addison.

made intelligible by some knowledge of *Chronology*, the science by which events are ranged in their order, and the periods of computation settled. We can form but very confused notions of the rise and fall of empires, and the establishment of states, without some such general comprehension of the whole current of time, as may enable us to trace out the dependence of the various transactions upon each other. The memorable events, in this edition, are brought down to the present time; and the late occurrences introduced will both instruct and amuse young readers of both sexes.

Biography, the subject of the fourth book, is highly interesting to youth. Example is more powerful than precept. The perusal of a well-written life may lead to the imitation of it. When young people read in the lives of eminent persons, that industry, learning, and goodness, are the road to prosperity and happiness, they will naturally be excited to follow the steps of those worthy characters, whose laudable exertions have been crowned with success. And, when they find that indolence and improper behaviour are attended with bad consequences, they will be convinced of the necessity of application, integrity, and virtuous conduct. Three new lives, including that of the brave sir Ralph Abercromby, enrich the present impression, besides considerable additions to the biographical sketches of the former one.

Mythology, or *fabulous history*, contained in the fifth book, is drawn up in a clear and concise method, free from tedious narratives of small consequence, and that ill-judged relation of many particulars of the heathen deities, which cannot make any person either wiser or better. The learned Rollin, in his Belles Lettres, says, "He had ever wished that some one would be at the pains to draw up a short history of *fable*, which would be expressly

calculated for the use of youth, and contribute to the understanding of the classics; and that every thing foreign to the purpose should be rejected, while nothing should be omitted, which might throw light upon the works of the most approved writers, both ancient and modern."

The sixth book treats of the *British Constitution* and *Jurisprudence.* The first kind of government must have been that which is natural in every family, where the parent is the head or chief. This is commonly called the *patriarchal* scheme. But as families multiplied, contentions arose, for the settlement of which, the wiser and more sober part of men had recourse to certain restrictions, or, in other words, laws; and, to enforce and maintain these, introduced that kind of order which is stiled government.

When men become members of society, their liberty is rather increased than diminished. In consequence of laws and government, they are enabled to enjoy that happiness which is agreeable to the nature of rational beings. This calls forth industry and application, which are never seen among savages. This puts them in a capacity of improving their possessions, and of procuring both the necessaries and the conveniencies of life. Well regulated societies, indeed, do not allow unbounded freedom. They suffer no oppression. They admit of no injustice. But such restraints are favorable to real liberty.

An acquaintance with our excellent constitution will teach us to whom obedience is due, for what it is paid, and in what degree it may be justly required. This knowledge, by peculiar necessity, constitutes a part of the education of a Briton, who professes to obey his prince according to the law, and who is himself a secondary legislator, as he gives his consent by his representative, to

all the laws by which he is bound, and has a right to petition the great council of the nation, whenever he thinks they are deliberating upon an act detrimental to the interest of the community. This is therefore a subject to which the thoughts of every young gentleman ought to be directed, that he may be qualified to conduct himself as one of a *free people*, and to discharge the obligations he owes to his sovereign, his country, and his friends.

Rhetoric, or *elocution*, with which the work concludes, is a very essential branch of polite education. To speak with propriety is a great recommendation in any situation of life. In the pulpit, in the senate, and at the bar, it is indispensably requisite. How can we make others feel what we feel ourselves, if we do not express our sentiments with perspicuity, animation, and energy? Let the orations of Demosthenes and Cicero, Burke and Fox, Sheridan and Pitt, be models of eloquence to the British youth. The bare mention of such names is a sufficient inducement to the study of oratory.

What sublime eloquence is displayed in the following speech of a late noble orator, on the employment of the American Indians in the war! In the course of the debate on an address to his majesty, in the year 1777, lord Suffolk, secretary of state, had defended that measure, on the principle, "that it was justifiable to use all the means that God and nature put in our hands."—"I am astonished!" exclaimed lord Chatham, as he rose) "shocked! to hear such principles confessed—to hear them avowed in this house, or in this country; principles equally unconstitutional, inhuman, and unchristian! My lords, I did not intend to have encroached again on your attention: but I cannot repress my indignation. I feel myself impelled by every duty. My lords, we are called upon as members of this house, as men, as christian men, to protest

against such notions standing near the throne, polluting the ear of majesty. "That God and nature put into our hands!" I know not what ideas that lord may entertain of God and nature; but I know, that such abominable principles are equally abhorrent to religion and humanity. What! to attribute the sacred sanction of God and nature to the massacres of the Indian scalping knife—to the cannibal savage torturing, murdering, roasting, and eating; literally, my lords, eating the mangled victims of his barbarous battles! Such horrible notions shock every precept of religion, divine or natural, and every generous feeling of humanity. And, my lords, they shock every sentiment of honour; they shock me as a lover of honorable war, and a detester of murderous barbarity. These abominable principles, and this more abominable avowal of them, demand the most decisive indignation. I call upon that right reverend bench, those holy ministers of the gospel, and pious pastors of our church; I conjure them to join in the holy work, and vindicate the religion of their God: I appeal to the wisdom and the law of this learned bench, to defend and support the justice of their country. I call upon the bishops to interpose the unsullied sanctity of their lawn; upon the learned judges, to interpose the purity of their ermine, to save us from this pollution: I call upon the honour of your lordships, to reverence the dignity of your ancestors, and to maintain your own: I call upon the spirit and humanity of my country, to vindicate the national character: I invoke the genius of the constitution. From the tapestry that adorns these walls, the immortal ancestor of this noble lord* frowns with indignation at the disgrace of his coun-

* Lord Effingham—Lord Effingham Howard was lord high admiral of England, against the Spanish armada; the destruction of which is represented in the tapestry.

try. In vain he led your victorious fleets against the boasted armada of Spain; in vain he defended and established the honour, the liberties, the religion, the protestant religion, of this country, against the arbitrary cruelties of popery and the inquisition, if these more than popish cruelties and inquisitorial practices are let loose among us; to turn forth into our settlements, among our ancient connections, friends, and relations, the merciless cannibal, thirsting for the blood of man, woman, and child! to send forth the infidel savage—against whom? against your protestant brethren; to lay waste their country, to desolate their dwellings, and extirpate their race and name, with these horrible instruments of savage war! Spain armed herself with blood-hounds, to extirpate the wretched natives of America: and we improve on the inhuman example, even of Spanish cruelty; we turn loose these savage hell-hounds against our brethren and countrymen in America, of the same language, laws, liberties, and religion; endeared to us by every tie that should sanctify humanity.

"My lords, this awful subject, so important to our honour, our constitution, and our religion, demands the most solemn and effectual inquiry. And I again call upon your Lordships, and the united powers of the state, to examine it thoroughly and decisively, and to stamp upon it an indelible stigma of the public abhorrence. And I again implore those holy prelates of our religion, to do away these iniquities from among us. Let them perform a lustration; let them purify this house, and this country, from this sin.

"My lords, I am old and weak, and at present unable to say more; but my feelings and indignation were too strong to have said less. I could not have slept this night in my bed, nor reposed my head on my pillow, without giving this vent to my eternal abhorrence of such preposterous and enormous principles."

Such was the sudden burst of eloquence, that I am persuaded, if the question could have been instantly put to the vote, their Lordships would have forgotten they were politicians, and remembered only they were men: that the decision would have been without a dissent; and that he would have effected as a speaker, what he had perfected in his glorious war as a minister; "without dividing, to destroy party; without corrupting to make a venal age unanimous."

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TO THE BINDER.

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ELEMENTS

OF

USEFUL KNOWLEDGE.

BOOK I.

PHILOSOPHY. ASTRONOMY.

CHAP. I.

ON THE ATMOSPHERE, OR SURROUNDING AIR.

THE atmosphere is a thin, invifible fluid, which surrounds the earth to a considerable height. It accompanies it in its diurnal motion round its own axis, and in its annual motion round the sun. The vapours float in it. The clouds are suspended by it. It furnishes wind and rain. In short, it is that in which we live and breathe.

According to Dr. Keill, and other astronomical writers, it is entirely owing to the *atmosphere* that the heavens appear *bright* in the day-time. For, without the atmosphere, only that part of the heavens would shine in which the sun was placed; and if we could live without air, and should turn our backs towards the sun, the whole heavens would appear as dark as in the night, and the stars would be seen as clear as in the nocturnal sky.

In this case we should have no twilight. There

would be a sudden transition from the brightest sunshine to the blackest darkness, immediately after sunset; and from the blackest darkness to the brighest sunshine, at sun-rising. This would be extremely inconvenient, if not blinding to all mortals. But, by means of the atmosphere, we enjoy the sun's light, reflected from the aërial particles, for some time before he rises, and after he sets. For when the sun has descended below the horizon, and consequently is out of our sight, the atmosphere, being higher than we are, has his light still imparted to it, and reflects it to us. This light, or rather twilight, gradually decreases, till the sun has got 18 degrees below the horizon; and then all that part of the atmosphere, which is above us, is dark.

From the length of the twilight, the doctor has calculated the height of the atmosphere (so far as it is dense enough to reflect any light,) to be about forty-four miles. But it is seldom dense or heavy enough, at two miles height, to bear up the clouds. The higher it goes, the thinner and lighter it becomes, and a ſmaller quantity of it occupies a larger space. Its real height, however, cannot be ascertained.

CHAP. II.

OF METEORS, AND THE DIFFERENT REGIONS OF AIR.

WHATEVER is engendered in the air which surrounds us, and which appears to be beyond the moon, is a meteor. This word signifies a body raised above the earth we inhabit.

Meteors are composed of vapours and exhalations.

Vapours are particles of water which mingle with the air.

Exhalations are particles of all the different terrestrial bodies, which rise into the air, such as sulphur, salts, bitumens, and other bodies of different natures, more or less combustible, solid, or heavy.

The air is composed of a high, middle, and lower region. The air of the higher region is lighter and colder than that of the middle; and that of the middle still finer than the lower. It is heaviest near the surface of the earth.

The weight of a column of air, one foot square, reaching from the surface of the earth to the top of the atmosphere*, is 2,160 pounds; so that a man of middling size, the surface of whose body is about 14 square feet, sustains a pressure of air of *thirty thousand* and 240 pounds; a pressure that would be insupportable, and even fatal to him, were it not that it is equal on every part, and counterbalanced by the spring of the air within him, which is diffused through the whole body, and re-acts with equal force against the outward pressure.

CHAP. III.

SOME OF THE PROPERTIES OF AIR.

THE air may be *rarefied*, or made to occupy more space. If you take a bladder, entirely empty, as you think, and tie its neck with a string, and lay it before the fire, the heat will so rarefy the little air inclosed in it, as to make it extend the bladder to its utmost stretch,

* Estimated at about 45 miles.

and, if continued, will make it break through with the report of a gun.

The air may be *condensed* even to a sixtieth part of the space it before occupied.

It is also endued with an *elastic* power. The air compressed in the wind-gun, will, by its elastic force when discharged, drive a bullet through a board at the distance of several yards, in the same manner as if it were with gunpowder.

The air-pump is a curious machine for extracting the air from a large hollow glass called a receiver, somewhat resembling those glasses that are used in gardens for covering tender plants. The space contained in the receiver is then called a vacuum. Into this glass if any animal is put, and the air drawn from it, it will almost immediately die; which shews that air is necessary to the life of animals. They do not all die in the very same space of time, but sooner or later, according to the strength of the vital principle within them, or according as they have been accustomed to live with more or less air. Dogs, cats, rats, and mice, die in about half a minute. Insects, such as wasps, bees, hornets, and grasshoppers, appear dead in two minutes, and will continue in that state a whole day and night, and afterwards revive upon the re-admission of the air. Ear-wigs, beetles, and snails, live a long time without air; and frogs will live longer without it than toads.

In the exhausted receiver of an air-pump all bodies fall with the same rapidity. A feather falls as fast as a guinea; that is, the lightest of all bodies falls as fast as the heaviest.

Common air is impregnated with a certain kind of vivifying spirit or quality, which is necessary to continue the lives of animals; and this, in a gallon of air, is sufficient for one man during the space of a minute, and no longer.

If a man descend into the deep in a diving-bell, he can only live as many minutes as the number of gallons of air contained in the bell amount to.

Even a burning candle consumes the vivifying spirit of a gallon of air in a minute, as appears by the following experiment. Set a lighted candle upon the air-pump, or indeed upon any other place so smooth, that when covered with a receiver, no air can enter. If the receiver holds a gallon, the candle will burn a minute; and then, after having gradually decayed from the first instant, it will go out; which shews that a constant supply of fresh air is as necessary to feed flame, as it is to support the lives of animals.

The *vivifying* spirit of air may be destroyed in a variety of ways. First, by passing through the lungs of animals, as is evident from what we have just now said. Secondly, by passing through fire, particularly charcoal fire, or the flame of sulphur. Hence smokey chimnies must be very unwholesome, especially if the rooms they are in be small and close. Thirdly, by being long pent up in any close place, such as the holds of ships, oil-cisterns, or wine-cellars. The air in many of these is sometimes so corrupted, as to prove instant death to any animal that comes into it.

The air is called *damp;* not only because it is filled with humid or moist vapours, but because it deadens fire, extinguishes flame, and destroys life. The dread-

ful effects of damps are sufficiently known to those who work in mines.

Air is absolutely necessary for the *propagation* of sound. If the clapper be made to strike ever so hard against the bell, it will make no sound at all, when the air is exhausted out of the receiver.

The *elastic* air, which is contained in many bodies, and is kept in them by the weight of the atmosphere, may be got out of them either by boiling, or by the air-pump; but the fixed air, which is by much the greater quantity, cannot be got out but by distillation, fermentation, or putrefaction.

This is a wise law of Providence: for, if fixed air did not come out of bodies without difficulty, and spend some time in extricating itself from them, it would tear them to pieces. Trees would be rent by the change of air from a fixed to an elastic state, and animals would be burst in pieces by the explosion of air in their food.

Dr. Hales found, by experiment, that the air in apples is so much condensed, that, if it were let out into the common air, it would fill a space of 48 times as great as the bulk of the apples themselves. If, therefore, the air were let loose at once in these substances, they would tear every thing to pieces about them, with a force superior to that of gunpowder. Hence, in eating apples, it is well that they part with the air by degrees, as they are chewed, and ferment in the stomach, otherwise an apple would be immediately death to him that eats it.

CHAP. IV.

OF THE WIND.

THE wind is nothing else but the air put violently in motion; and this is occasioned chiefly by means of heat. For, when any part of the air is heated by the sun, or otherwise, it will swell, and thereby affect the adjacent air; and so, by various degrees of heat in different places, there will arise various motions of the air.

When the air is much heated, it will ascend towards the upper part of the atmosphere, and the adjacent air will rush in to supply its place; and therefore there will be a stream or current of air from all parts, towards the place where the heat is. And hence we see the reason, why the air rushes with such force into a glass-house, a tile-kiln, or towards any place where a great fire is made; and also why smoke is carried up a chimney, and why the air rushes in at the key-hole of a door, or any small chink, where there is fire in the room. In general, we may take it for granted, that the air will press towards that part of the world where it is most heated.

The winds are divided into four principal ones, the *north*, *south*, *east*, and *west*, which receive their names from the four quarters of the world.

From the *Frigid Zone* comes the north wind, which is consequently the coldest.

The *south wind* is the warmest, and particularly in the summer, because it comes from the *Torrid Zone*, over countries where the sun is most vertical.

The *east wind* is the dryest, because it comes across

the vast continent of Asia, which is but little watered by rivers or seas.

The *west wind* often blows us rain ; because, as it crosses the great Atlantic ocean, it attracts a great quantity of vapours.

When these impetuous winds happen to meet, the greatest inconveniencies follow. The sulphureous exhalations from the south, torrents of nitre from the north, and watery vapours from every side, become indiscriminately blended together in one confused mass. From hence proceed tempests, thunder, rain, hail, and whirlwind.

The velocity of wind is at the rate of 50 or 60 miles an hour, in a great storm ; that of a common brisk wind is about 15 miles an hour ; and some winds move not even one mile in that space of time.

A person, therefore, on horseback, and even sometimes on foot, may be said to outstrip the wind ; for, if he moves faster than the wind, which is very possible, he will have a wind in his face, though both move in the same direction.

The velocity of *sound* is *thirteen* times as great as that of the strongest wind.

CHAP. V.

ON THE TROPICAL WINDS.

THERE are certain winds, called tropical winds, which blow almost always from the same point of the compass. They are of three kinds. 1. The *general trade winds*, which extend to near thirty degrees of latitude on each side of the equator, in the Atlantic,

Ethiopic, and Pacific oceans. On the north side of the equator, they blow from north-east, on the south side from the south-east, and near the equator from almost due east. 2. The *monsoons*, or shifting trade winds, which blow six months in one direction, and the other six months in the opposite direction. These are mostly in the Indian, or Eastern ocean, and do not reach above two hundred leagues from the land. Their change is at the vernal and autumnal equinoxes, and it is accompanied with terrible storms of thunder, lightning, and rain. The monsoons are occasioned by the *cold air* moving towards those places, in which the air is rarefied by the heat of the sun, in order to restore its equilibrium. 3. The *land and sea breezes*, which are periodical winds, and blow from the land from night to about mid-day, and from the sea from about noon to mid-night. These winds do not extend above two or three leagues from the shore.

Beyond the latitude of thirty degrees, north and south, the winds, as we daily perceive in Great Britain, are more variable, though it may be observed in general, that the tendency of the wind is from a colder region to that which is hotter.

CHAP. VI.

OF MISTS, CLOUDS, RAIN, DEW, SNOW, AND HAIL.

MISTS are those collections of vapours, which chiefly rise from fenny moist places, and become more visible as the light of the day decreases.

Clouds are nothing else but a collection of moist par-

ticles, exhaled from the sea and earth by the heat of the sun, suspended aloft in the air, and soaring on the wings of the wind.

The *height of the clouds* is supposed to be from about a quarter of a mile, to a mile. It is common for persons, by climbing very high mountains, to get above the clouds, and see them swim beneath them.

The wonderful variety in the *colour* of the clouds, is owing to their particular situation with regard to the sun, and the different reflections of his light. The different figures of the clouds result from their loose and voluble texture, revolving into any form according to the different force of the winds.

Rain is nothing but thick clouds condensed by the cold, which by their own weight fall upon the earth in small quantities, called drops of water.

Those small clouds, sometimes seen very high, and heaped upon one another, presage rain very soon.

When the horizon, at the rising or setting of the sun, appears pale and yellowish, it is a sign of the air being full of vapours, and threatens bad weather. But when it is of a light red at those times, there are but few vapours in the air, and fine weather may be expected.

If the cloud that melts is greatly rarefied, and its particles, in falling, meet an air moderately warm, these drops will be so small, that they will not compose rain, but *rime* only.

Dew is produced from a quantity of particles of water extremely subtile, that float about in a calm and serene air in form of vapours, which, being condensed by the coldness of the night, lose by degrees their agitation, and many uniting together, fall in the

morning in small invisible particles, like an extremely fine and delicate rain, which continues but a short time, and is seen in drops of water like pearls, upon leaves and herbs.

Snow is produced thus. In winter the regions of the air are intensely cold, and the clouds finding this great cold on every side, quickly pass from that state of condensation which might reduce them to rain, into that which is able to reduce them to ice; so that in winter, as soon as the clouds begin to change into very fine drops of water, each of these small particles freeze, and touching each other, form flakes of snow.

The small intervals that the flakes leave between them, like so many pores, filled with a subtile air, are the cause of their *lightness*.

The snow is *white*, because the small particles of ice, which compose those flakes, being hard, solid, transparent, and differently arranged, reflect to us the light from all parts.

Hail is formed, when the parts of a cloud, beginning to fall, meet in their descent a very cold air, which freezes them, and these small bits of ice are very near the figure and size that the drops of water would have been, had they fallen.

CHAP. VII.

OF THE SEVEN COLOURS, AND THE RAINBOW.

THERE are no more than seven *primary*, or original colours, namely, *red*, *orange*, *yellow*, *green*, *blue*, *indigo*, and *violet*. All the other colours are composed of some of these primary ones.

The *difference* of colours is owing to the different refrangibility of the rays of light, which produce them. By the *refrangibility* of the rays of light, I mean their tendency to be turned out of a straight line, or to be rendered crooked, in passing through any medium. The least refrangible rays are those that produce red; and the most refrangible, are those that produce violet. All the intermediate rays produce the intermediate colours in the order above-mentioned.

If the *rays* of the sun were not of different colours, there would be only *one colour* in the world; for the colours are in the rays of light, and not in the bodies that are dyed with them. That this opinion is well founded, we may be convinced by observing, that all bodies are of the same hue in the dark. Perhaps it may be said, if it be absolutely dark, we cannot see at all. True. But there sure may be something between an obscure light and absolute darkness, just sufficient to shew us, that a man has got a great coat upon his back, though we cannot tell for certain, of what colour it is.

Black and *white* are not original colours. White is a mixture of all the *primary* colours; and black is a *privation* of them all, or no colour at all.

The *iris,* or *rainbow,* is a beautiful arch in the heavens, ornamented with all the *primary colours.* It is only seen when the spectator turns his back to the sun, and when it rains on the opposite side.

Its beautiful colours struck antiquity with amazement. To the philosophers Pliny and Plutarch, it appeared as an object which we might admire, but could never explain.—The priests always preferred

the wood, on which the rainbow had appeared to rest, for their sacrifices, vainly supposing that this wood had a perfume peculiarly agreeable to their deities.

According to sir Isaac Newton's theory, the rainbow is formed by the rays of the sun being refracted by the drops of falling rain or mist, and thence reflected to the spectator's eye.

All the colours of the rainbow may be produced by making the rays of the sun pass through a prism.

Rainbows sometimes appear by night in the moonshine. The *lunar* rainbow is formed exactly in the same manner as the solar, by the bright beams of the moon striking upon the bosom of a shower.

A lucid ring, called an *halo*, is sometimes seen diffused round the moon. As this is always in a *rimy* or frosty season, we may suppose it occasioned by the refraction of light on the frozen particles of the air.

CHAP. VIII.

OF EARTHQUAKES AND VOLCANOS.

AN *earthquake* is a sudden motion, caused by the inflammation of some sulphureous and bituminous exhalations, contained in the caverns of the earth, not far from its surface. In the southern countries, earthquakes are very frequent.

An artificial earthquake may be made thus. Take ten or fifteen pounds of sulphur, and as much of the filings of iron, and knead them with common water into the consistency of a paste. This being buried in the ground, will, in eight or ten hours time, burst out in flames, and cause the earth to tremble all round, to a considerable distance.

There are many subterraneous places, from which issue torrents of smoke and of flames, rivers of melted metals, and clouds of ashes and stones. They are called *volcanos*. The most famous are those of mount *Etna* in Sicily, *Vesuvius* in Naples, and *Hecla* in Iceland.

In an eruption from the second of these, the two cities of Pompeii and Herculaneum were buried by the lava, and lay concealed in that state for several ages, till they were lately discovered. Pliny the elder, the famous naturalist, perished on the occasion. Pliny the younger, author of the epistles that go by his name, has given us an account of this catastrophe, in one of his letters.

The bowels of these burning mountains contain sulphur, bitumen, and other inflammable matter, the effects of which are more dreadful than those of thunder or of gunpowder, and they have in all ages astonished mankind, and desolated the earth.

CHAP. XI.

OF THE AURORA BOREALIS.

THE *aurora borealis* is that shining light, which is often seen by night in the heavens, and which the vulgar call northern lights, or streamers.

This phænomenon may be the result of certain nitrous and sulphureous vapours, thinly spread through the atmosphere above the clouds, where they ferment, and taking fire, the explosion of one portion kindles the next, and the flashes succeed one another, till all the vapour is set on fire, the streams whereof seem to

converge towards the zenith of the spectator, or that point of the heavens, which is immediately over his head.

The *northern lights* were not much seen in England, till the month of March, 1716. Since that time, however, they have been, and still continue to be, very frequent.

CHAP. X.

OF THE TIDES.

AS rivers flow and swell, so also does the sea. Like them it has its currents, which agitate its waters, and preserve them from putrefaction. That regular motion of the sea, according to which it ebbs and flows twice in twenty-four hours, is called its *tides.*

In its flux, the sea generally rises for six hours, when it remains, as it were, suspended, and in equilibrio, for about twelve minutes. At that time it is called *high water.*

In its reflux, the sea falls for six hours, when it remains, as it were, in a like manner, suspended, and in equilibrio, for about twelve minutes. At that time it is called *low water.*

We are told that Aristotle, despairing to discover the true cause of these wonderful appearances, had the folly, in spite of his philosophy, to throw himself headlong into the sea.

The *tides* are occasioned by the *attraction* of the *moon.* This doctrine remained in obscurity, till the immortal sir Isaac Newton explained it by his great principle of gravity or attraction. For having de-

monstrated that there is a principle in all bodies, within the solar system, by which they mutually draw, or attract one another, in proportion to their distance; it follows, that those parts of the sea, which are immediately below the moon, must be drawn towards it, and consequently, wherever the moon is nearly vertical, the sea will be raised, which occasions the flowing of the tide there.

A similar reason occasions the flowing of the tide in those places, where the moon is in the nadir, and which must be diametrically opposite to the former. For, in the hemisphere farthest from the moon, the parts in the nadir being less attracted by her, than the other parts which are nearer to her, gravitate less towards the earth's centre, and consequently must be higher than the rest.

Those parts of the earth, on the contrary, where the moon appears on the horizon, or ninety degrees distant from the zenith and nadir, will have low water. For, as the waters in the zenith and nadir rise at the same time, the waters in their neighbourhood will press towards those places, to maintain the equilibrium. To supply the places of these, others will move the same way, and so on to the places ninety degrees distant from the zenith and nadir, where the water will be lowest.

By combining this doctrine with the diurnal motion of the earth, already explained, we shall be sensible of the reason why the tides ebb and flow, twice in twenty-four hours, in every place on the globe.

The tides are higher than ordinary twice every month, that is, about the times of new and full moon,

and are called *spring tides.* For, at these times, the actions of both the sun and the moon are united, and draw in the same straight line, and consequently the sea must be more elevated. At the conjunction, or when the sun and moon are on the same side of the earth, they both conspire to raise the waters in the zenith, and consequently in the nadir; and at the opposition, or when the earth is between the sun and moon, while one occasions high water in the zenith and nadir, the other does the same.

The tides are less than ordinary twice every month, about the first and last quarters of the moon, and are called *neap tides.* In these quarters, the sun raises the waters where the moon depresses them, and depresses where the moon raises them; so that the tides are only occasioned by the difference by which the action of the moon, which is nearest us, prevails over that of the sun.

These things would happen uniformly, were the whole surface of the earth covered with water; but since there is a multitude of islands and continents, which interrupt the natural course of the water, a variety of appearances are to be met with in different places, which cannot be explained, without regarding the situation of shores, shoals, and other objects, which have a share in producing them.

There are frequently streams or currents in the ocean, which set ships a great way beyond their intended course. There is a current between Florida and the Bahama islands, which always runs from north to south. A current runs constantly from the Atlantic, through the straits of Gibraltar, in the Mediterranean.

A current sets out of the Baltic sea, through the sound or strait between Sweden and Denmark, into the British channel; so that there are no tides in the Baltic.

About small islands and head-lands in the middle of the ocean, the tides rise very little; but in some bays, and about the mouths of rivers, they rise from twelve to fifty feet.

Perhaps it may be said, that as a current constantly runs from the Atlantic into the Mediterrnnean, the waters of the sea ought to increase. By no means. The water extracted from it in vapours, is more than sufficient to counterbalance the influx. It has been found by calculation, that in a summer's day, there may be raised in vapours, from the Mediterranean, 5280 millions of tuns of water. Yet this sea does not receive, from all its nine great rivers, above 1827 millions of tuns per day, which is but one-third of what is exhausted in vapours; so that, were it not for the influx from the Atlantic, the Mediterranean would soon be rendered dry.

The tides flow from *east* to *west*, for they must necessarily follow the moon's motion, which is from east to west.

The course of the tides, however, is sometimes *interrupted* by continents, and other large tracts of land. The tide, for instance, in the Indian ocean, being stopped by the eastern coast of Africa, must necesarily flow south, towards the Cape of Good Hope, which having passed, it then runs northward along the northern coast of Africa, and that of Spain, Portugal, and France, till it enters the English channel; there meet-

ing the tide from the German ocean, running a contrary way, it is necessarily stopped, and produces a very great swell of water.

These *two tides* thus flowing in opposite directions, and meeting a little irregularly, have sometimes occasioned *two tides*, the one immediately after the other, in the river *Thames*, which, though proceeding from a natural cause, and consequently very easy to be explained, has been looked upon as a prodigy.

As to the tide of rivers, it must always flow in a direction quite the reverse of their natural stream; for the waters of the sea being higher, they must necessarily flow into them, and make their waters flow back, or regurgitate. The tide of the Thames, and of all the other rivers on the eastern coast of England, must flow westward. The tide of the Severn, and of all the other rivers on the western coast of England, must run eastward; and so of the rest.

CHAP. XI.

ON THE SALTNESS OF THE SEA.

SEA-WATER is salt, while that of rivers is mild, fresh, sweet, and fit for human purposes. Some think that this saltness arises from great beds of salt lying at the bottom of the sea. But others more rationally suppose it is owing to the following cause. Salt is one of the original principles of nature, and is mixed, in greater or less quantities, with most other bodies. Now all rivers run into the sea, and carry some salt with them: but no rivers run out of it, nor is any water taken from it, but either by exhalation or eva-

poration. But chymists have demonstrably proved, that no salt can ascend in either of these ways; and consequently, that all the salt carried into the sea, by the immense numbers of rivers that run into it, remains behind, and occasions its saltness.

That no salt ascends from the sea, either by exhalation or evaporation, is evident from this, that rain-water, which falls from the clouds, and was originally exhaled from the sea, is, of all kinds of water, the sweetest, purest, and lightest, and is made the *standard* by which philosophers judge of all other waters.

CHAP. XII.

ON ELECTRICITY, AND THUNDER AND LIGHTNING.

THE word *electricity* is derived from the Greek word *elektron*, signifying amber, which was the first substance that was observed to have the property of attracting straws, and other light bodies; for this was the simple origin of a science that is now arrived at very great perfection.

The *electrical matter* is a subtle fire, which pervades all nature, and produces the most surprising effects.

Thunder and *lightning* are undoubtedly owing to electricity. Dr. Franklin has proved by a variety of experiments, that the lightning of electricity, and the lightning that flashes from the clouds in a thunder-storm, are exactly of the same kind, and operate in the ſame manner.

Electricians have the art of making a machine, by which they can draw fire from a variety of bodies, and

even accumulate, or heap it together in such quantities, that when it is discharged, or let off, it will make a report like a pistol, and even kill animals.

The particulars, in which lightning and the electric fluid agree, are as follow. 1. Flashes of lightning are generally seen crooked, and waving in the air. The same is the electric spark always, when it is drawn from an irregular body, at some distance.—2. Lightning strikes the highest and most pointed objects in its way, in preference to others, as high hills, and trees, towers, spires, masts of ships, points of spears, and the like. In like manner, all pointed conductors* receive or throw off the electric fluid more readily than those that are terminated by flat surfaces. 3. Lightning is observed to take the readiest and best conductor. So does electricity in the discharge of the Leyden phial.† For this reason Dr. Franklin supposes, that it would be safer, during a thunder-storm, to have one's cloaths wet than dry, as the lightning might then, in great measure, be transmitted to the ground, by the water on the outside of the body. It is found, he says, that a wet rat cannot be killed by the explosion of the electrical bottle, but that a dry rat may. 4. Lightning burns: so does electricity. Dr. Franklin says, that he could kindle with it hard dry rosin, spirits unwarmed, and even wood. 5. Lightning sometimes dissolves metals: so does electricity. 6. Lightning has often been known to strike people blind. And a pigeon, after a violent

* Conductor is a term used by electricians for denoting any thing that conducts the electric fire from one body to another.

† A glass that contains an accumulation of electric matter.

shock of electricity, by which the doctor intended to have killed it, was observed to have been struck blind.

7. Lightning destroys animal life. Animals have likewise been killed by the shock of electricity. The largest animals, which Dr. Franklin and his friends had been able to kill, were a hen, and a turkey which weighed about ten pounds.

To demonstrate, in the clearest manner possible, the sameness of electrical fire with the matter of lightning, Dr. Franklin, astonishing as it must have appeared, contrived actually to bring lightning from the heavens, by means of an electrical kite, which he raised, when a storm of thunder was perceived to be coming on.

This kite had a pointed wire fixed upon it, by which it drew the lightning from the clouds. The lightning descended along the hempen string that held the kite, and was received by a key tied to the extremity of it. That part of the string, which the Doctor held in his hand, was of silk*, that the electric fire might stop at the key, and not reach his body.

He found, that the string would conduct electricity even when nearly dry, but that when it was wet, it would conduct it quite freely ; so that it would stream out plentifully from the key, at the approach of a person's finger. At this key he chaiged phials, and from electric fire thus obtained, he kindled spirits, and performed all the common electrical experiments.

This discovery of the sameness of lightning and electricity, was applied by Dr. Franklin to a most useful purpose, namely, to the securing buildings from

* Some bodies conduct the electric fire, and some do not conduct it. Silk is of the latter kind.

the dreadful effects of lightning in a thunder-storm. With regard to thunder itself, or the sound or noise we hear, it is perfectly harmless. It is the lightning that does the mischief.

He effected this, by fixing a pointed iron rod higher than any part of the building, and joining to the lower end of it a wire, which communicated with the earth. This rod the lightning was sure to seize upon, in preference to any other part of the building, and descended along it and the wire till it reached the earth, where it was instantly dissipated without doing any harm.

All public buildings, and especially all magazines, ought to have such an apparatus for defending them from lightning; and many, I believe, have.

The fire of electricity is very different from *common fire*, and operates in a very different manner. It has been known to melt a sword in the scabbard, without injuring the scabbard itself; and to melt money in a man's pocket without burning his clothes. In a word, it seems to be of such a nature, that it can easily penetrate through porous bodies without affecting them, and spends all its force upon those that are hard and solid.

The experiment of drawing lightning from heaven, by means of an electric kite, is attended with danger. It proved fatal to Abbé Richman; who, in 1753, was killed by a flash of lightning, which he drew from the clouds, in an experiment he was making at Petersburgh.

Electricity has been applied to some medical purposes, with so much success, that it may now be considered as part of the science.

CHAP. XIII.

ON THE SOUND OF THUNDER, AND THUNDER-BOLTS.

THE reason, why we do not hear the dreadful noise of the thunder, as soon as we see the lightning, is, because sound is longer in arriving to our ears, than light to our sight.

Light moves almost instantaneously. Sound moves no more than 1142 feet in a second. That light moves much faster than sound, any one may satisfy himself by observing a gun discharged at a discharge; for he will see the fire long before he hears the sound.

The continuation and repetition of the sound is caused by a kind of echo formed in the clouds, to which many hard bodies upon the earth may contribute, which return those rollings we hear after a great clap of thunder.

A *thunder-bolt* is nothing but a more solid and most rapid flame, which, with incredible swiftness, flies from the clouds to the earth, and through every thing standing in its way, being interrupted by nothing. It sometimes kills men and animals, burns and overthrows large trees and buildings, and sets fire to every thing in its way.

CHAP. XIV.

OF WATER-SPOUTS, WHIRLWINDS, AND HURRICANES.

SIGNIOR Beccaria, of Turin, thinks that electricity is the cause of *water-spouts*. To make this more evi-

dent, he first describes the circumstances attending the appearance of these spouts; which are as follow.

They generally appear in calm weather. The sea seems to boil, and send up a smoke under them, rising into a hill towards the spout. At the same time, persons who have been near them have heard a rumbling noise.

The *shape* of a water-spout is that of a speaking-trumpet, the wider end being in the clouds, and the narrower end towards the sea.

The size is various, even in the same spout. The colour is sometimes inclining to white, and sometimes to black. Their position is sometimes perpendicular to the sea, sometimes oblique, and sometimes the spout itself is in the form of a curve. Their continuance is very various, some disappearing as soon as formed, and some continuing a considerable time. Another he has heard of continued a whole hour.

Beccaria likewise supposes, that *whirlwinds* and *hurricanes* are owing to electricity, and adds, that what water-spouts are at sea, whirlwinds and hurricanes are by land. They have been known to tear up trees, to throw down buildings, make caverns in the earth; and, in all these cases, to scatter earth, stones, bricks, timber, &c. to a great distance in every direction. Great quantities of water have been left, or raised by them, so as to make a kind of deluge; and they have always been attended with a prodigious rumbling noise.

That these phænomena depend upon electricity, cannot, he says, but appear very probable from the nature of several of them; but the conjecture is made more probable from the following additional circumstances.

They generally appear in months peculiarly subject to thunder-storms, and are commonly preceded, accompanied, or followed by lightning, rain, or hail.—Whitish or yellowish flashes of light have sometimes been seen, moving with prodigious swiftness about them. And, lastly, the manner in which they terminate, exactly resembles what might be expected from the prolongation of an electrified cloud, towards the sea. The water and the cloud mutually attract one another. They suddenly contract themselves, and disperse almost at once; the cloud rising, and the water of the sea under it falling to its level.

But the most remarkable circumstance, and the most favourable to the supposition of their depending upon electricity, is, that they have been dispersed by presenting to them sharp-pointed knives or swords. This, at least, is the constant practice of mariners, in many parts of the world, where these water-spouts abound.

CHAP. XV.

DEFINITION OF ASTRONOMY.

THE science which treats of the planets, and other heavenly bodies, is called *Astronomy*. The most conspicuous of the celestial bodies is that glorious luminary the *Sun*, the fountain of light and heat to the several planets or habitable worlds which revolve round it. These planets, together with the sun, compose what astronomers have called the *Solar System*. They are six in number; and their names are Mercury, Venus, the Earth, Mars, Jupiter, and Saturn. With respect to their nearness to the centre, or middle point of the sun, they are exactly in the order in which they are

here mentioned. Mercury is the nearest to the sun, Venus next, the Earth next, Mars next, Jupiter next, and Saturn is at the greatest distance of all.

Dr. Herschel, the famous German astronomer, lately discovered another planet, to which he gave the name of the *Georgium Sidus.**

CHAP. XVI.

†DISTANCES OF THE PLANETS FROM THE SUN.

THE distances of the planets from the sun may easily be conceived in the following manner. Supposing the distance of the earth from the sun to be divided into ten equal parts, then that of Mercury will be four of these parts; that of Venus seven; that of Mars fifteen; that of Jupiter fifty-two; and that of Saturn ninety-five. Hence, it appears, that the Earth is placed between Mars and Venus, having Mars, Jupiter, and Saturn above her, and Venus and Mercury below her; and for this reason it is, that the three first are called superior, and the two last inferior, planets.

But to express the distances of the planets from the sun, in English miles, the distance of Mercury from it is much about 37 *millions* of miles; of Venus 69 *millions* of miles; of the Earth 95 *millions* of miles; of Mars 145 *millions* of miles; of Jupiter 495 *millions* of miles; and of Saturn 908 *millions* of miles.

By these distances, however, are to be understood

* This planet was seen through a telescope, on the 2d of October, 1793, at two o'clock in the morning, in conjunction with that fixed star of the first magnitude, called *Regulus*, or the *Lion's Heart.*

† See Solar System facing the title.

their mean distances; in order to comprehend which, it must be observed, that the orbit, or path, which a planet describes about the sun, is not a perfect *circle*, but a figure called an *ellipsis*; which, though somewhat resembling a circle, is longer than it is broad. Hence the same planet is not always at the same distance from the sun, and the mean distance of it is that which is exactly between its greatest and least distance.

CHAP. XVII.

DIFFERENCE BETWEEN A PLANET AND A FIXED STAR.

THE planets appear at first sight like fixed stars; but, upon a more accurate view, they may easily be distinguished from them. 1. By their never twinkling, as these last do. 2. By their being seen earliest in the evening, and latest in the morning. And 3. By their changing their position with regard to the fixed stars, and to one another.

Mercury can never be seen by the naked eye, on account of his nearness to the sun, in the splendor of whose beams he is totally absorbed. The only way of observing him is in his passage over the sun, when he appears like a black spot on its surface. Venus is sometimes our *evening*, and sometimes our *morning* star. Mars and Saturn may be easily known by their deep *red* colour. And Jupiter is distinguishable from the fixed stars by the *largeness* of his size, and the *brightness* of his colour, which is so great, that it will sometimes illuminate a *thin cloud* in the same manner as the moon.

CHAP. XVIII.

ON THE MOTION OF THE PLANETS.

ALL the planets, in different stated periods of time, perform their motion round the sun from west to east, in orbits nearly circular. Mercury performs his revolution in about *three months;* Venus in about *seven months* and a half; the Earth in *a year;* Mars in about *two years;* Jupiter in *twelve;* and Saturn in about *thirty years.*

If we can form a notion of the manner in which any one of the planets (suppose our earth) moves round the sun, we can easily conceive the manner in which all the rest do it.

The earth, upon which we live, was long considered as one large extensive *plane.* The heavens, above it, in which the sun, moon, and stars, appeared to move daily from east to west, were conceived to be at *no great distance* from it, and to be only designed for the use or ornament of our earth. Mankind, however, are now convinced that they live on a globe; and the spherical figure of the earth may be proved by a variety of arguments: 1. When we are on board a ship at sea, we may be out of sight of land, when the land is near enough to be visible, if it were not hid from our eye by the convexity of the water. In this case the tops of hills, cliffs, steeples, towers, &c. first appear to our view, next the buildings, and last of all the shore; which can proceed from nothing else but the roundness of the earth, whereby the lower objects are longer hid from the sight, than those which are higher.

2. When we stand upon the shore, the highest part

of a ship is visible at the greatest distance. If a ship be going from us out to sea, we shall continue to see the mast, after the hull or body of the ship disappears, and the top of the mast will be seen longest. But if the surface of the sea were quite flat, every part of an object would be equally visible; and not the highest, but the largest part of an object, would be visible at the greatest distance, so that we should be able to see the hull of a ship farther off than the mast. But this is contrary to experience; consequently the earth is round.

3. Several navigators have sailed quite round the earth; not in an exact circle, the winding of the shores preventing them from sailing in a direct course; but by sailing continually to the westward, they have reached the place from whence they at first departed. This was performed by Magellan, Cavendish, Sir Francis Drake, Lord Anson, Bougainville, Commodore Byron, the Captains Carteret, Wallis, Cook, and others.

4. Eclipses of the moon, which are occasioned by the shadow of the earth falling on that planet, demonstrate that the earth is of a globular figure; for this shadow is always circular, whatever situation the earth may be in at that time. Now a body must be *globular*, which always casts a circular shadow.

Nor are the little unevennesses on the earth's surface, arising from hills and vallies, any material objections to its being considered as a round body; because the highest mountains bear less proportion to the bulk of the earth, than the little risings on the coat of an orange bear to that fruit; or a grain of sand to an artificial globe, of nine inches diameter. And accord-

ingly, we find that the mountains and vallies on the surface of the earth, cause no irregularities in the shadow, during a lunar eclipse; the circumference thereof being even and regular, and appearing as if cast by a body truly globular.

The roundness of the earth being thoroughly established, a way is naturally opened for the discovery of its motion. For while it was considered as a plane, mankind had an obscure notion of its being supported, like a scaffolding, on *pillars*, though they could not tell what supported these. But the figure of a globe is much better adapted to motion.

This is confirmed by considering, that, if the *earth* does not *move* round the sun, not only the *sun*, but *all the stars* and *planets*, must *move* round the earth. Philosophers, by reckonings founded on the surest observations, have been able to *guess* pretty nearly at the distances of the heavenly bodies from the earth, and from each other, just as every body, who knows the first elements of mathematics, can measure the height of a steeple, or any object placed on it. It appears, therefore, that if we conceive the heavenly bodies to move round the earth, we must suppose them endowed with a motion or velocity, so *immense* as to exceed all conception. All the appearances in nature, however, may be as well explained by imagining the earth to move round the sun in the space of a year, and to turn on its own axis once in twenty-four hours.

CHAP. XIX.

ON THE MOTION OF THE EARTH.

THE revolution of the earth round its axis, every twenty-four hours, or its *diurnal* motion, alternately causes day and night, as either side is turned towards or from the sun; and its periodical revolution round that luminary, in three hundred and sixty-five days six hours, or its *annual* motion, produces the four seasons of the year.

To form a conception of these two motions of the earth, we may imagine a ball moving upon a billiard-table, or bowling-green. The ball proceeds forward upon the green or table, not by sliding along like a plane upon wood, or a slate upon ice, but by turning round its own axis, which is an imaginary line drawn through the centre or middle of the ball, and ending on its surface in two points, called its poles.

Conceiving the matter then in this way, and that the earth, in the space of twenty-four hours, moves from west to east, the inhabitants on the surface of it, like men on the deck of a ship, who are insensible of their own motion, and think that the banks move from them in a contrary direction, will conceive that the sun and stars move from east to west, in the same time of twenty-four hours, in which they, along with the earth, move from west to east.

This daily or *diurnal* motion of the earth being once clearly conceived, we may easily form a notion of its *annual* or yearly motion round the sun. For as that luminary seems to have a daily motion round our earth, which is really occasioned by the daily motion of the earth round its axis, so, in the course of a year, he

seems to have an annual motion in the heavens, and to rise and set in different points of them, which is really occasioned by the daily motion of the earth on its orbit or path round the sun, which it completes in the time of a year.

This double motion of the earth may also be compared to a coach turning round in a court-yard. The wheels go round their *own axis*, at the same time that they move round the *yard*. It travels at the rate of fifty-eight thousand miles every hour, which is one hundred and twenty times swifter than a cannon ball; and by its rapid motion on its axis, the inhabitants of London are carried five hundred and eighty miles every hour. Those at the Equator move much faster: those towards the Poles much slower; and those at the very Poles hardly move at all.

What has been said, with regard to the motion of the earth, the smallest reflection may lead us to apply to the other planets.

CHAP. XX.

AN OBJECTION ANSWERED.

THE following objection is made to some by the diurnal rotation of the earth on its own axis. If it moves, say they, from west to east, will not a ball, fired perpendicularly upward in the air, fall considerably westward of the place from which it was shot? By no means. For, as both the gun and ball partake of the earth's motion, the ball will be carried forward with the air, as quick as the earth and air turn, and will therefore fall on the very spot from which it was

fired. Thus, if one let fall a stone from the top of a main-mast, it will fall on the deck, as near the foot of the mast, when the ship sails, as when she is at rest.

CHAP. XXI.

OF THE SECONDARY PLANETS, OR MOONS.

BESIDES the *six primary* planets already mentioned, which move round the sun, there are other *ten* bodies which move round *three* of these, in the same manner as *they* do round the sun. Of these our earth has *one*, called the moon; Jupiter has *four*, and Saturn has *five*. These are all called moons from their agreeing with our moon, which was first attended to. They are also called *satellites*, and *secondary planets*, because they seem to be attendants of the Earth, Jupiter, and Saturn, about which they move, and which are called *primary*. Saturn has, besides, a thin, broad ring that surrounds his body, without touching it, in the same manner as a horizon does an artificial globe. It is twenty-one thousand miles in breadth, and is as far from Saturn on every side.

CHAP. XXII.

OF THE SIZE OF THE PLANETS.

THE Earth is *twenty-seven* times as big as Mercury, very little bigger than Venus, and *five* times as big as Mars. But Jupiter is *more* than a *thousand* times as big as the Earth, Saturn *five hundred and eighty-six* times as big, exclusive of his ring; and the Sun is near *nine hundred thousand* times as big as the Earth.

The Moon is, at least, *forty-three thousand* times less

than the Sun, and fifty times less than the Earth. The reason of her appearing as big as the Sun is, that she is much nearer the Earth. Her distance from the Earth is only two hundred and forty thousand miles; whereas that of the Sun is ninety-five millions.

CHAP. XXIII.

OF COMETS.

COMETS are certain dark or opaque bodies, like the planets, and move round the sun, but in very eccentric orbits, being sometimes so far from him, that their cold must be excessive, and sometimes so near him, that their heat must be so intense, as would prove altogether intolerable to an inhabitant of this earth; and would even destroy, or at least vitrify, the earth itself.

Sir Isaac Newton computed the heat of the comet that appeared in the year 1680, when nearest the sun, to be two thousand times hotter than red-hot iron, and that, being thus heated, it must retain its heat till it comes round again, although its period should be more than twenty thousand years; and it is computed to be only five hundred and seventy-five.

It is believed that there are at least twenty-one comets belonging to our system, moving in different directions. All those which have been observed, have moved through the etherial regions and the orbits of the planets, without suffering the least sensible resistance in their motions, which sufficiently proves that the planets do not move in solid orbs.

Of all the comets, the periods of three only are

known with any degree of certainty, being found to return at intervals of 75, 129, and 575 years; and of these, that which appeared in 1680 is the most remarkable. This comet, at its greatest distance, is about eleven thousand two hundred millions of miles from the sun, while its least distance from the centre of the sun is about four hundred and ninety thousand miles. In that part of its orbit which is nearest the sun, it flies with the amazing velocity of eight hundred and eighty thousand miles in an hour; and the sun, as seen from it, appears one hundred degrees in breadth, and consequently forty thousand times as large as he appears to us.

Our earth was out of the way, when this comet last passed near her orbit; but it requires a more perfect notion of the motion of the comet, to be able to judge, if it will always pass by us, with so little effect. The comet, in one part of its orbit, approaches very near to the orbit of our earth; so that, in some revolutions, it may approach near enough to have very considerable, if not fatal, effects upon it.

One of the comets was expected to return in 1789, but it has not yet appeared.

Comets are always attended with long transparent trains or tails, issuing from that side of them which is turned away from the sun.

Comets were formerly supposed to be prodigies or portents, and to foretel some great event or revolution, such as the fall of empires, or the death of some eminent and distinguished personage; but they are now known to have no more connection with the civil or political affairs of this world, than any other of the heavenly bodies.

CHAP. XXIV.

OF THE FIXED STARS.

THE *fixed Stars* comprehend all the other heavenly bodies, except the sun, planets, and comets. They are distinguished by the naked eye from the planets, by being less bright and luminous, and by continually exhibiting that appearance, which we call the twinkling of the stars. This arises from their being so extremely small, that the interposition of the least body, of which there are many constantly floating in the air, deprives us of the sight of them. When the interposed body changes its place, we again see the star; and this succession being perpetual, occasions the twinkling.

But a more *remarkable* property of the fixed stars, and that from which they have obtained their name, is their never changing their situation, with regard to each other, as the planets, from what we have already said, must evidently be always changing theirs.

The stars which are *nearest* to us seem *largest*, and are therefore called of the *first magnitude*. Those of the *second magnitude* appear *less*; and so proceeding on to the *sixth magnitude*, which includes all the fixed stars that are visible without a telescope.

CHAP. XXV.

NUMBER OF THE FIXED STARS.

AS to their number, though in a clear winter's night, without moonshine, they seem to be innumerable, which is owing to their strong sparkling, and our looking at them in a confused manner, yet when the whole firmament is divided, as it has been done by the

ancients, into signs and constellations, the number that can be seen at a time, by the naked eye, is not above a *thousand.*

Since the introduction of telescopes, indeed, the number of the fixed stars has been justly considered as *immense;* because the greater perfection we arrive at in our glasses, the more stars always appear to us. Mr. Flamsteed, late royal astronomer at Greenwich, has given us a catalogue of about three thousand stars, which is the most complete that has hitherto appeared. Halley observed three hundred and fifty more in the southern hemisphere.

CHAP. XXVI.

OF THE DOG-STAR.

THE immense distance of the fixed stars from our earth, and from one another, is of all considerations the most proper for raising our ideas of the works of God. The star nearest to us, and consequently the largest in appearance, is the *dog-star,* or *Sirius.* Modern discoveries make it probable, that each of these fixed stars is a sun, having worlds revolving round it, as our sun has the earth and other planets revolving round him. So that, perhaps, there are as many systems of worlds, as there are fixed stars in the expanse of heaven. Now the dog-star appears *twenty-seven thousand* times less than the sun; and, as the distance of the stars must be greater as *they* seem less, mathematicians have computed the distance of *Sirius* from us to be *two billions* and *two hundred thousand millions* of miles.

The motion of light, therefore, which, though so

quick as to be commonly thought *instantaneous*, takes up more time in *travelling* from the stars to *us*, than *we* do in making a West-India voyage. A *sound* would not arrive to us from thence in *fifty thousand* years; which, next to light, is considered as the quickest body we are acquainted with. And a cannon-ball, flying at the rate of four hundred and eighty miles an hour, would not reach us in *seven hundred thousand* years.

CHAP. XXVII.

OF THE CONSTELLATIONS ON EACH SIDE OF THE ZODIAC.

THE first people who paid much attention to the fixed stars were the *shepherds* in the beautiful plains of Egypt and Babylon; who, partly from amusement, and partly with a view to direct them in travelling during the night, observed the situation of these celestial bodies. Endowed with a lively fancy, they divided the stars into different *companies* or constellations, each of which they supposed to represent the image of some *animal*, or other *terrestrial* object.

The peasants in our country do the same thing; for they distinguish that great northern constellation, which philosophers call the *Ursa Major*, by the name of the *Plough*, the figure of which it may certainly represent with a very little help from the fancy.

But the constellations, in general, have preserved the names, which were given them by the ancients. They are reckoned twenty-one *northern*, and twelve *southern;* but the moderns have increased the number of the northern to thirty-six, and of the southern to thirty.

NORTHERN CONSTELLATIONS.

The Little Bear, *the Great Bear*, *the Dragon*, *the Greyhound*, *Bootes**, and *Mons Menelaus*: *Cephæus*†, *Berenice's Hair*, *Charles's Heart*, *the Northern Crown*, *Hercules*‡, and *Cerberus*: *The Harp*, *the Swan*, *the Fox*, *the Goose*, *the Lizard*, *Cassiopeia*, and *Perseus*: *Andromeda*, *the Great Triangle*, *the Little Triangle*, *Auriga*, *Pegasus*§, *the Dolphin*, and *the Arrow*: *The Eagle*, *Serpentarius*, *the Serpent*, *Sobieski's Shield*, *Camelopardus*, and *the Colt*: *Antinous*, *the Lynx*, *the Little Lion*, and *Musca*.

SOUTHERN CONSTELLATIONS.

The Whale, *the river Eriadnus*, *the Hare*, *Orion*, *the Great Dog*, and *the Little Dog*: *the Ship Argo*, *Hydra*, *the Centaur*, *the Cup*, *the Crow*, *the Wolf*, and *the Altar*: *the Southern Crown*, *the Southern Fish*, *the Phœnix*, *the Crane*, and *the Peacock*: *Noah's Dove*, *the Indian*, *the Bird of Paradise*, *Charles's Oak*, *the Southern Triangle*, and *the Fly* or *Bee*: *the Swallow*, *the Cameleon*, *the Flying Fish*, *the American Goose*, *the Water Serpent*, and *the Sword Fish*.

Some of the principal stars have particular names given them, as *Aldebaram*, in the *Bull's Eye*; *Regulus*, or the *Lion's Heart*; *Arcturus*, in *Bootes*; *Sirius*, in the *Great Dog*; *Spica*, or the *Ear of Corn*, in *Virgo*; *Pleiades*, or the *Seven Stars*.

Besides the stars visible to the naked eye, there is a very remarkable space in the heavens, called the *Galaxy*, or *Milky Way*. This is a broad circle of a whitish

* The keep of the bear.
† A king of Ethiopia.
‡ With his club watching the dragon.
§ Or the flying horse.

hue, like milk, going quite round the whole heavens, and consisting of an infinite number of small stars, visible through a telescope, though not discernible by he naked eye.

CHAP. XXVIII.

OF THE TWELVE SIGNS IN THE ZODIAC.

BESIDES the above-mentioned, there are twelve *signs* or constellations in the Zodiac, as it is called from a Greek word signifying an animal, because each of these twelve represents some animal. The line in the middle of the Zodiac is called the Ecliptic; because *eclipses* happen in or near that line. It is called *Via Solis*, the *sun's annual path, or way through the heavens. But in astronomy it is that circle, or path, which the earth would describe to an eye, placed in the centre of the system, viz. the sun. It is divided into twelve equal parts, which are called *Signs*, and have different names and characters.

NORTHERN SIGNS.

Aries.	*Taurus.*	*Gemini.*	*Cancer.*	*Leo.*	*Virgo.*
♈	♉	♊	♋	♌	♍

SOUTHERN.

Libra.	*Scorpio.*	*Sagittarius.*	*Capricornus.*	*Aquarius.*	*Pisces.*
♎	♏	♐	♑	♒	♓

The signification of these names is as follows. Aries signifies the *Ram;* Taurus the *Bull;* Gemini the *Twins;*

* Properly speaking, however, it ought to be called the earth's yearly path through the heavens.

Cancer the *Crab;* Leo the *Lion;* Virgo the *Virgin;* Libra the *Balance;* Scorpio the *Scorpion;* Sagittarius the *Archer;* Capricornus the *Goat;* Aquarius the *Water-bearer*; and Pisces the *Fishes.*

It is not easy to say, why the ancient astronomers affixed such images as the Ram, the Bull, &c. to the twelve signs of the Zodiac. There is great reason, however, to suppose that they were placed as hieroglyphics of the seasons of the year, alluding to the annual course of the sun.

Thus Aries, Taurus, and Gemini, represent *March, April,* and *May,* the spring quarter of the year, when *lambs, calves,* and *goats,* (the latter generally bringing forth *twin kids)* are produced.

Cancer, the *Crab,* which *creeps both ways,* represents the increase and decrease of the sun's declination, to and from the summer solstice, in June.

Leo, the *Lion,* intimates the *raging heat* of the sun in July, which the ancients compared to the furious nature of that *fierce* animal.

Virgo, the *Virgin,* with a spike or ear of corn in her hand, properly represents August, when the *harvest* of the earth is *ripe.*

Libra, the *Balance,* is displayed in September, to intimate that the days, at the autumnal equinox, are equal in all parts of the globe.

Scorpio, the *Scorpion,* a noxious animal, is placed as the hieroglyphic of October, because, at that season, diseases of various kinds too often *rage.*

Sagittarius, the *Archer,* marks November as the proper time for *hunting.*

Capricornus, the *Goat,* by its *climbing* up the rocks, is placed as an *emblem* of December, when the sun, at

the winter solstice, begins to ascend again towards the equinoctial.

Aquarius, the *Water-bearer*, with his urn, represents January, when *rains* are frequent.

Pisces, the *Fishes*, are emblems of the fishing season, which began in the Nile during the month of February.

The names of the twelve signs are contained in the following verses :

The *ram*, the *bull*, the *heavenly twins*,
And next the *crab*, the *lion* shines,
The *virgin* and the *scales* :
The *scorpion*, *archer*, and *sea-goat*,
The man that holds the *water-pot*,
And *fish* with glittering tails.

CHAP. XXIX.

OF THE SUN AND MOON, AND ECLIPSES.

SOME imagine the *Sun* to be a common fire, continually supplied with globules of combustible matter, and therefore have thought it to be the place of hell. Others say that it is an elementary fire, which subsists without any kind of nourishment.

Though the sun be nine hundred thousand times bigger than the earth, it appears but small on account of its distance, which is so very great, that a cannon-ball would be twenty-five years coming from thence to the earth, even if it flew as swift as it does, when it is first discharged from the mouth of a cannon.

It was formerly supposed that the sun moved round the earth, because he seemed to do so. But it is now

demonstrated that he always remains fixed in the same place, and that the earth and other planets move round about him.

The *Moon* is a large globe like our earth, both in matter and form. She is not a luminary like the sun, but a dark opaque body, and receives all the light she shines with from the sun, and by reflection conveys it to *us* in the sun's absence.

The different degrees of light with which the moon shines, are called her *phases*. At *new* moon she is between the sun and the earth, and her enlightened parts are hid or turned from us ; when *full*, we are between her and the sun, and we see all her enlightened side. She likewise appears a *horned*, *half*, or *gibbous* moon, when a little part of her light turns towards us.

The *bright* parts of the moon's body are the highest parts of the land, as hills, mountains, promontories, islands, &c. and the darker parts of the moon are caverns, deep pits, and places which reflect not the sun's light so strongly as others.

The earth is at least fifty times bigger than the moon ; and the distance between them, as was before observed, is about two hundred and forty thousand miles.

The moon is the cause of the tides. By attracting the waters of the sea she raises them higher.

An *Eclipse* is a total or partial privation of the light of the sun or moon. An eclipse of the sun happens, when the moon comes between the *sun* and the earth. In this position she will wholly or partly intercept the rays of the sun, which is then said to undergo an eclipse. When this eclipse is total, the darkness is so great, that the stars will appear at noon-day.

An eclipse of the moon is occasioned by the coming of the earth between the moon and the sun. It is easy to be conceived, that the moon, having no light of her own, when the rays of the sun are intercepted from her, will appear dark or dusky.

An eclipse of the *sun* never happens but at a new moon, nor one of the *moon*, but when she is full.

CHAP. XXX.

ON A PLURALITY OF WORLDS.

THE *Sun*, with all its attendant planets, is but a *very little* part of the grand machine of the universe. The stars which we behold in the firmament, though owing to their immense and inconceivable distance they appear very small, are no less spacious and luminous than the radiant source of our day. Every *star*, as was before-mentioned, is the *centre* of a system,—has a *retinue* of worlds *enlightened* by its beams, and revolving round its attractive influence.

Were it possible that we could be conveyed to the most *distant* of those twinkling luminaries, that are within the reach of our sight, even when assisted by human art, we should there see *other skies* expanded, *another sun* distributing his inexhaustible beams by day, *other stars* that gild the horrors of the alternate night, and other (perhaps *nobler)* systems established, in unknown profusion, through the *boundless* dimensions of space.

Job, after a most beautiful dissertation on the works of God, as they are distributed through universal nature, closes the account with this acknowledgement, "Lo! these are parts of his ways:" or, as the origin-

al word more literally signifies, and may perhaps be more elegantly rendered, "These are only the outermost borders of his works;" no more than a *small province* of God's universal empire.

It is observed by a very judicious *writer, "That if the sun himself, which enlightens this part of the creation, was extinguished, and all the host of planetary worlds, which move about him, were annihilated, they would not be missed any more than a grain of sand upon the sea-shore. The bulk of which they consist, and the space which they occupy, is so exceedingly little, in comparison of the whole, that their loss would scarce leave a blank in the immensity of God's works. The chasm would be imperceptible to an eye that could take in the whole compass of nature, and pass from one end of the creation to the other."

A celebrated †philosopher carries this thought so far, that he does not think it impossible there may be stars, so far removed from this earth, that their *light* has not as yet *reached* to us, since their *first creation*.

There is no question but the universe has certain bounds set to it; but when we consider that it is the work of infinite wisdom, prompted by infinite goodness with an infinite space to exert itself in, how can our imagination set any bounds to it?

What an august, what an amazing conception, if human imagination can conceive it, does this give of the works of the Creator! Thousands and thousands of suns, multiplied without end, and ranged all around us, at immense distances from each other, attended by *ten thousand times ten thousand* worlds, all in rapid mo

* Mr. Addison. † Huyghens.

tion, yet calm, regular, and harmonious, invariably keeping the paths prescribed them; and these worlds, in all probability, peopled with myriads of intelligent beings, formed for endless progression in perfection and felicity.

If so much power, wisdom, goodness, and magnificence, are displayed in the material creation, which is the least considerable part of the universe, how wise, how good must HE be, who made and governs the whole!

CHAP. XXXI.

CONCERNING THE INHABITANTS OF THE PLANETS.

THE magnificence of Nature shines forth in all her works. Could that all-powerful hand which weighed the foundations of the universe, which suspended from the lamp of heaven, millions of luminous globes, which gave them the first impulse, and which created planets like those which we inhabit, find obstacles to prevent it from peopling these orbs, as it has peopled ours?

All the observations of the moderns tend to persuade us that *our moon* has an atmosphere; parts more elevated and enlightened than others; parts lower and obscurer; and others, which reflecting less light, and presenting a surface always equally smooth, are thought to be a large collection of waters. Have we not every reason then to infer, according to our notions of the wisdom of God, that he has placed there beings of some kind or other, to inhabit that planet, in order that all these phenomena may not be entirely lost? We can never persuade ourselves that Nature, or the

Supreme Architect of the world, should have made any thing *in vain*.

Father Kircher transported himself in idea to all the planets, and has given a description of their inhabitants according to his exalted imagination. Saturn, he says, is peopled with *melancholy old men*, who have pale visages and stern looks, and who, clothed in dismal dresses, march along with a slow pace, bearing in their hands flaming torches. In Venus he observed young people of the *finest* figure and *most exquisite* beauty, some of whom danced to the sound of *harps* and cymbals, whilst others scattered, in great profusion, odours and perfumes.

Whoever imagines that so many glorious suns were created only to give a faint glimmering light to the inhabitants of this globe, must have a very superficial knowledge of astronomy, and a mean opinion of the divine Wisdom. There are many stars which are not visible without the assistance of a good telescope; and, therefore, instead of giving light to this world, they can only be seen by a few astronomers. By an infinitely less exertion of creating power, the Deity could have given our earth much more light by a single additional moon.

Fontenelle has secured himself from the objections of divines, by not placing *men* in the *other planets*, but inhabitants of a *different* nature. But it was far from being *necessary* for him to do so. The scripture, indeed, informs us, that all mankind are *descended* from Adam, but this is only meant of those men who inhabit *our globe*. Other men may inhabit other planets, and may have sprung from some other father than Adam. Dare we, who, in comparison of the universe,

are mere insects, creeping over the surface of that little spot called the earth, prescribe bounds to all Nature!

With great reason, then, do all philosophers now admit as many solar systems, more or less like ours, as there are fixed stars. Even those minds, which are the least tinctured with philosophy, begin to be familiarized with this idea of millions of worlds; which, in some measure, may be ascribed to the elegant work of Fontenelle on this subject.

CHAP. XXXII.

THE CELESTIAL BODIES PROVE THAT THERE IS A GOD.

WHO that lifts up his eyes to the heavens, and beholds the wonders of the firmament, can entertain the least doubt of the existence of a Supreme Being? "There is no speech nor language, where their voice is not heard. Their line is gone out through all the earth, and their words to the end of the world." To imagine such effects without a cause, or to ascribe them to a cause less than divine, is bidding defiance to the faculty of intelligence, and renouncing the character of a rational being. The reasonings of an ancient philosopher on this point are excellent. "Let us suppose," says he, "certain persons to have been born, and to have lived in subterraneous habitations, till they came to the years of maturity and discretion, and then to be introduced into this *fair world*, which we inhabit. Let them be imagined to behold the face of the earth, diversified with *hills* and *vales*, with *rivers* and *woods*; the *wide extended* ocean, the *lofty* sky, and the *clouds*

carried along by the *winds*. Let them behold the *sun*, and observe his transcendent brightness, and wonderful influence, as he pours down the flood of day, over the whole earth, from east to west. And when night covered the world with darkness, let them behold the hemisphere, bespangled and adorned with *innumerable stars*. Let them observe the various appearances of the *moon*, in her increase and decrease. Let them have leisure to mark the rising and setting of the celestial luminaries, and to understand that their established courses have been going on from age to age. When," says he, " they had surveyed and considered all these things, they would infallibly conclude, that they were the workmanship of a Being, possessed of all those perfections, which are generally ascribed to the great Creator!"

The heavenly bodies speak intelligibly to all mankind. There is no people so uncivilized, no nation so barbarous, which may not receive both conviction and instruction from them. So wonderful and grand a scene must certainly strike even the rudest minds, and produce awful impressions, as well as devout acknowledgements.

CHAP. XXXIII.

ON THE DIVINE WISDOM DISPLAYED IN THE HEAVENLY BODIES.

WHAT skill less than divine could have poised the stars with inexpressible nicety, and meted out the heavens with a span? where all is grand, and vast, and various, but yet most exact. All the spheres proceed in eternal harmony; keeping such time, and observing

such laws, as are most exquisitely adapted to the perfection of the whole.

Surely the wisdom of the Deity manifests itself in the heavenly bodies, and shines on the contemplative mind with a lustre incomparably brighter than that, which their united splendors transmit to the eye.

"There dwells a noble pathos in the skies,
"Which warms our passions, proselytes our hearts:
"How *eloquently shine* the glowing orbs!
"Demonstrating great truths in style sublime*?"

CHAP. XXXIV.

THE HEAVENS DECLARE THE POWER OF THE DEITY.

"We read God's *awful power*, imprinted high,
"With golden letters, on the starry sky†."

IN what majestic lines is it *there* written! In what legible characters is it there recorded! In how striking a manner is it there displayed! "By the word of the Lord were the heavens made, and all the host of them by the breath of his mouth." He said, "Let there be light, and there was light. Let there be a firmament, and there was a firmament. Let the sun rule the day, and the moon the night, and so it was!" At his command, order sprung out of confusion, and the beautiful fabric of the universe emerged from choas. "He stretched out the north over the empty place," suspended the earth upon nothing, and bade the planets go their everlasting round. With what wonderful rapidity, and

* Dr. Young. † Mrs. Barbauld.

yet with what perfect regularity, do they perform their revolutions! How minutely faithful to the vicissitudes of day and night! How exactly punctual in bringing on the changes of their respective seasons! By the great Creator were they first set in motion. He impressed upon them the power of *gravitation*, by which they hang self-balanced on their centres, and require nothing but this amazing property for their support. If it were the pleasure of the Deity, that this principle should cease to exert its energy, the universal frame would be dissolved, and all Nature would return to her original chaotic state: or, as the ingenious and much-admired author of the Seasons expresses it,

————————" Should God hide his face,
" The astonish'd sun, and all th'extinguished stars,
" Would loosening reel, wide from their spheres,
" And chaos come again*!'

CHAP. XXXV.

ON THE GOODNESS OF THE DEITY DISPLAYED IN THE CREATION.

IT was nobly said by a Grecian philosopher, " That God, when he undertook the work of creation, transformed himself into *Love*." He has no occasion, however, to transform himself into this amiable principle, for he is the fountain and the source of it. It is much easier to believe that there is no God, than that he is not good and beneficent. He created this earth, and all the brighter realms on high, and peopled them with so many tribes of inhabitants, for no other purpose, but

* Thomson.

to transfuse his *exuberant kindness*, and to communicate felicity and joy to *innumerable ranks* of sensitive and intelligent existence.

Large as the compass of creation is, every thing contributes to the beauty, the order, and well-being of the whole. The sun is the inexhausted source of light, and heat, and comfort, shedding day through all the system, and extending his benign and enlightening influence to surrounding worlds. The clouds being raised in copious exhalations from the vast ocean, are kindly commissioned to drop down fatness as they fall, to diffuse fertility over the earth, and to scatter flowers over the field.

The goodness of the Deity warms in the morning sun, refreshes in the evening breeze, smiles in the blossoms of spring, and shines in the constellations of heaven.

————————" The glitt'ring stars
" By the deep ear of meditation heard,
" Still in their midnight watches sing of Him."

What an amiable idea of the Author of Nature doth this convey to us! Is it possible to conceive any excellence so attractive, as infinite benevolence, guided by unerring wisdom, and exerting almighty power, on purpose to make a whole universe happy?

CHAP. XXXVI.

ON THE RISE, PROGRESS, AND REVOLUTIONS OF ASTRONOMY.

MANKIND must have made a very considerable improvement in observing the motions of the heavenly

bodies, before they could so far disengage themselves from the prejudices of sense and popular opinion, as to believe that the earth, upon which we live, was not fixed and immoveable.

We find, accordingly, that *Thales*, the *Milesian*, who, about 580 years before Christ, first taught astronomy in Europe, had gone so far in this subject, as to calculate eclipses, or the interpositions of the moon between the earth and the sun, or of the earth between the sun and the moon.

Pythagoras, a Greek philosopher, flourished about ten years after Thales, and was, no doubt, equally well acquainted with the motion of the heavenly bodies. This led Pythagoras to conceive an idea, which there is no reason to believe had ever been thought of before, namely, that the earth itself was in motion, and that the sun was at rest. He found that it was impossible, in any other way, to give a consistent account of the heavenly motions.

The system, however, was so extremely opposite to all the prejudices of sense and opinion, that it never made great progress, nor was ever widely diffused in the ancient world. The philosophers of antiquity, despairing of being able to overcome ignorance by reason, set themselves to adapt the one to the other, and to form a reconciliation between them.

This was the case with *Ptolemy*, an Egyptian philosopher, who flourished 138 years before Christ. He supposed, with the vulgar, who measure every thing by themselves, that the earth was fixed immovably in the centre of the universe, and that the seven planets, considering the moon as one of the primaries, were placed near to it; above them was the firmament of

fixed stars, then the crystalline orbs, then the *primum mobile*, and, last of all, *cælum empirium*, or heaven of heavens. All these vast orbs he supposed to move round the earth once in twenty-four hours; and besides that, in certain stated and periodical times. This system was universally maintained by the Peripatetic philosophers, who were the most considerable sect in Europe from the time of Ptolemy to the revival of learning in the sixteenth century.

At length, Copernicus, a native of Poland, a bold and original genius, adopted the Pythagorean or true system of the universe; and published it to the world in the year 1530. This doctrine had been so long in obscurity, that the restorer of it was considered as the inventor; and the system obtained the name of the *Copernican Philosophy*, though only revived by that great man.

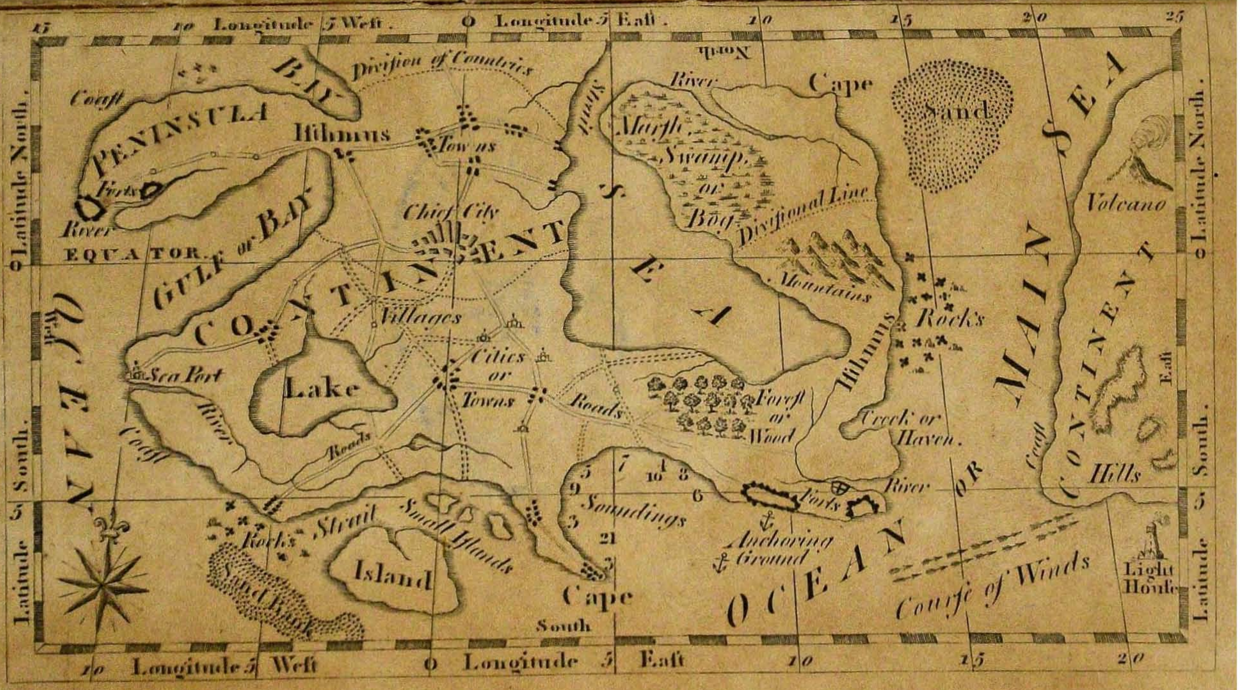
Europe, however, was still immersed in ignorance; and the general ideas of the world were not able to keep pace with those of a refined philosophy. This occasioned Copernicus to have few abettors, but many opponents. Tycho Brahe, in particular, a noble Dane, sensible of the defects of the Ptolemaic system, but unwilling to acknowledge the motion of the earth, endeavoured, about 1586, to establish a new system of his own, which was still more perplexed and embarrassed than that of Ptolemy. It allows a monthly motion to the moon round the earth, as the centre of its orbit; and it makes the sun to be the centre of the orbits of Mercury, Venus, Mars, Jupiter, and Saturn. The sun, however, with all the planets, is supposed to be whirled round the earth in a year, and even once in

twenty-four hours. This system, notwithstanding its absurdity, met with its advocates, who so far refined upon it, as to admit the diurnal motion of the earth, though they insisted that it had no annual motion.

About the year 1610, after a darkness of a great many ages, the first dawn of learning and taste began to revive in Europe. Learned men, in different countries, began to cultivate astronomy. Galileo, a Florentine, introduced the use of telescopes, which discovered new arguments in support of the motion of the earth, and confirmed the old ones. The fury and bigotry of the clergy, indeed, had almost checked this flourishing bud. Galileo was obliged to renounce the Copernican system as a damnable heresy.

The happy reformation in religion, however, placed the one half of Europe beyond the reach of the papal thunder. It taught mankind, that the scriptures were not given for explaining systems of natural philosophy, but for a much nobler purpose, to make us just, virtuous, and humane: that, instead of opposing the word of God, which, in speaking of natural things, suits itself to the prejudices of weak mortals, we employed our faculties in a manner highly agreeable to God himself, in tracing the nature of his *works*. The more *they* are considered, the more they afford us the greater reason to admire his glorious attributes of power, wisdom, and goodness.

From this time, therefore, noble discoveries were made in all the branches of astronomy. The motions of the heavenly bodies were not only clearly explained, but the *general law of nature*, according to which they moved, was discovered and illustrated by the immortal Newton. This law is called *Gravity* or *Attraction*, and


Longitude 5 West . 0 Longitude 5 East .
Latitude North .
Latitude South .
Latitude South .
Latitude North .
0 Longitude 5 East
10 Longitude 5 West
PENINSULA
BAY
Coast
Forts
River
EQUATOR.
GULF or BAY
Isthmus
Division of Countries
Towns
Chief City
CONTINENT
Villages
Sea Port
Lake
Cities or Towns
Roads
River
Coast
Strait
Rocks
Sand Bank
Island
Small Islands
Cape
South
Soundings
SEA
Marsh, Swamp, or Bog
Divisional Line
Mountains
Cape
River
North
Sand
Volcano
Rocks
Isthmus
Forest or Wood
Creek or Haven.
River
Forts
Anchoring Ground
OCEAN OR MAIN SEA
Coast
CONTINENT
East
Hills
Course of Winds
Light House

is the same by which any body falls to the ground, when disengaged from what supported it. It has been demonstrated, that this same law, which keeps the *sea* in its *channel*, and the various bodies which cover the surface of this earth from *flying off into the air*, operates throughout the universe, keeps the *planets* in their *orbits*, and preserves the whole fabric of nature from confusion and disorder.

Should the young reader be desirous of a further acquaintance with Astronomy, Ferguson's "Astronomy explained on Newton's Principles," or the more elegant work of Mr. John Bonnycastle, may be read with advantage.

BOOK II.

GEOGRAPHY. METALLURGY.

CHAP. I.

*GEOGRAPHY.

GEOGRAPHY is a description of the earth, the constituent parts of which are *land* and *water*. The parts of the land are continents, islands, peninsulas, isthmuses, promontories, capes, and coasts.

A *continent* is a large portion of land, containing several countries or kingdoms, without any entire separation of its parts by water, as Europe.

An *island* is a smaller part of land, surrounded by water, as Great Britain.

* See the annexed plate of explanation.

A *peninsula* is a tract of land, surrounded by water, except at one narrow neck, by which it joins the neighbouring continent; as the Morea in Greece; and that neck of land which so joins it, is called an isthmus, as the isthmus of Suez, which joins Africa to Asia; and the isthmus of Darien, which joins North and South America.

A *promontory* is a hill or point of land, stretching itself into the sea, the end of which is called a *cape;* as the cape of Good Hope.

A *coast or shore*, is that part of a country which borders on the sea-side.

The parts of the water are oceans, seas, lakes, straits, gulfs, or creeks. The waters are divided into three extensive oceans, (besides lesser seas, which are only branches of these,) viz. the *Atlantic*, the *Pacific*, and the *Indian* ocean. The Atlantic Ocean divides the eastern and western continents, and is 3000 miles wide. The Pacific divides America from Asia, and is 10,000 miles over. The Indian Ocean lies between the East Indies and Africa, being 3000 miles wide.

The *ocean* is a great and spacious collection of water, without any entire separation of its parts by land; as the Atlantic Ocean.

The *sea* is a smaller collection of water which communicates with the ocean, confined by the land; as the Mediterranean and the Red Sea.

A *lake* is a large collection of water, entirely surrounded by land; as the Lake of Geneva, and the Lakes in Canada.

A *strait* is a narrow part of the sea, restrained or lying between two shores, and opening a passage out of one sea into another; as the Straits of Gibraltar, or

that of Magellan. This is sometimes called a Sound, as the Straits into the Baltic.

A *gulf* is a part of the sea running up into the land, and surrounded by it, except at the passage whereby it is communicated with the sea or ocean. If a gulf be very large, it is called an inland sea; as the Mediterranean: if it do not go far into the land, it is called a bay, as the Bay of Biscay: if it be very small, a *creek*, *haven*, *station*, or *road* for ships; as Milford Haven.

CHAP. II.

EUROPE.

THE Earth is divided into four quarters, viz. Europe, Asia, Africa, and America.

Europe is situated between the tenth degree west, and the sixty-fifth degree east longitude from London; and between the thirty-sixth and seventy-second degree of north latitude. It is bounded on the north by the Frozen Ocean; on the east by Asia; on the south by the Mediterranean Sea, which divides it from Africa; and on the west by the Atlantic Ocean, which separates it from America; being 3000 miles long from Cape St. Vincent in the west, to the mouth of the river Oby in the north-east; and 2500 broad from north to south, from the north Cape in Norway to Cape Caya, or Metapar, in the Morea, the most southern promontory in Europe.

It contains the following kingdoms and states:

Kingdoms.	*Chief cities.*	*Kingdoms.*	*Chief cities.*
England,	London.	Prussia,	Berlin.

Scotland,	Edinburgh.	Germany,	Vienna.
Ireland,	Dublin.	Bohemia,	Prague.
Norway,	Bergen.	Holland,	Amsterdam.
Denmark,	Copenhagen.	Flanders,	Brussels.
Sweden,	Stockholm.	France,	Paris.
Russia,	Petersburgh.	Spain,	Madrid.
Poland,	Warsaw.	Portugal,	Lisbon.
Switzerland,	Bern.	Genoa,	Genoa.
Hungary,	Buda.	Parma,	Parma.
Turkey,	Constantinople.	Venice,	Venice.
Italy,	Rome.	Modena,	Modena.
Naples,	Naples.	Mantua,	Mantua.
Piedmont,	Turin.	Tuscany,	Florence.
Milan,	Milan.	Savoy,	Chamberry.

The European islands in the Mediterranean Sea, are Ivica, Majorca, and Minorca, whose chief town is Port Mahon; Corsica, Sicily, and Sardinia, whose chief towns are Bastia, Cagliari, and Palermo.

The *British isles* are Guernsey, Jersey, Wight, Anglesea, Man, the Orkneys, the Hebrides, and Shetland.

The *chief mountains* in Europe are, the Alps, between France and Italy; the Appenine hills in Italy; the Pyrenean hills, that divide France from Spain; the Carpathian mountains, in the south of Poland; the Peak in Derbyshire; the Plinlimmon in Wales; besides the terrible volcanos, or mountains of Vesuvius and Stromboli, in Naples; Etna, in Sicily; and Hecla, in the cold island of Iceland.

The chief rivers are, the Thames and Severn in England; the Forth and Tay in Scotland; the Shannon in Ireland; the Tagus in Portugal; the Po and Tiber in Italy; the Weisel or Vistula in Poland; the

Elbe, the Odér, the Rhine, and the Danube, in Germany; the Seine and the Rhone in France; the Don and the Volga in Muscovy.

CHAP. III.

ASIA.

ASIA, the second great quarter of the world, is superior to Europe and Africa in the extent of its territories, stretching into all climates, from the frozen wilds of Siberia, where the hardy inhabitants, clothed in furs, are drawn in sledges over the snow, to the sultry regions of India and Siam, where, seated upon the lofty elephants, the people shelter themselves from the scorching sun by the spreading umbrella. This immense tract of land is bounded by the Frozen Ocean on the north; on the west by the Red Sea, Mediterranean Sea, Europe, and part of Africa; on the east it is bounded by the Pacific Ocean; and on the south by the Indian Sea. The principal regions that divide this country are as follow:

	Nations.	*Chief cities.*
Tartary.	Russian,	Tobolsk.
	Chinese,	Chynian,
	Mogulean,	Thibet,
	Independant,	Samarcand.
	China,	Pekin.
	Moguls,	Delhi.
	India beyond the Ganges,	Siam, Pegu.
	Persia,	Ispahan.
	Part of Arabia,	Mecca.

Syria,	Aleppo.
Holyland,	Jerusalem,
Natolia,	Bursa, or Smyrna.
Diarbec, or Mesopotamia,	Diarbec.
Irac, or Chaldea,	Bagdad.
Turcomania, or Armenia,	Erzerum,
Georgia,	Teflis.
Curdistan, or Assyria,	Scherazer.

The islands of Asia are, the Mariana, or Ladrone islands, Formosa, and the Philippines, in the eastern ocean. The Moluccas, and the Spice islands; Celebes, Borneo, Java, Sumatra, Ceylon, and the Maldives, in the Indian Ocean. Cyprus, Rhodes, Lesbos, Samos, and a few others of less note on the coasts of Asia, and the Mediterranean. Most of the islands lying near, or under the line, afford great quantities of sugar and spice, which the Dutch trade with to all parts of the world.

The principal *rivers* that water Asia, are, the Tigris, and Euphrates, between Arabia and Persia; the Indus, and the Ganges, in India. The latter is the largest and the most famous river of all Asia; and its source, according to the opinion of the Indians, is celestial, since they say one of their gods pours it from his mouth on mount Ima, from whence, passing through many states, and directing its course south, it passes into the kingdom of Bengal, and throws itself into the sea by several mouths.

The highest *mountains* of Asia are, Ararat, near the Caspian Sea, on which it is thought the ark of Noah rested, when the waters of the deluge subsided; Horeb

and Sinai, in Arabia; Lebanon, in Judea; Mount Taurus, running from east to west of all Asia; Imaus, in Tartary; the lofty Caucasus, between Tartary and the Great Mogul empire, famous for the fabulous story of Prometheus, who, according to the fiction of the poets, was chained to this mountain; and the Naugracut, in Thibet.

CHAP. IV.

AFRICA.

AFRICA, the third grand division of the globe, is situated to the south of Europe, and surrounded on all sides by the sea, except a narrow neck of land about sixty miles over, called the Isthmus of Suez, which joins it to Asia, at the top of the Red Sea. Its utmost length, from north to south, is 4300 miles, and the broadest part is 3500 miles ftom east to west. It is bounded on the north by the Mediterranean Sea, which separates it from Europe; on the east by the Isthmus of Suez, the Red Sea, and the Indian Ocean, which divide it from Asia; on the south, by the Southern Ocean; and on the west by the great Atlantic Ocean, which separates it from America.

According to the best accounts and conjectures, Africa may be divided according to the following table:

	Nations.	*Chief cities.*
Barbary.	Morocco, Tafilet,	Fez.
	Algiers,	Algiers.
	Tunis,	Tunis.
	Tripoli,	Tripoli.
	Barca,	Polemeta.

	Egypt,	Grand Cairo.
	Biledulgerid,	Dara.
	Zaara,	Tegessa.
	Negroland,	Madinga.
	Guinea,	Benin.
Ethiopia.	Nubia,	Nubia.
	Abyssinia,	Gondar.
	Abex,	Doncala.
	Loango,	Loango.
Guinea.	Congo,	St. Salvador.
	Angola,	Loando.
	Benguela,	Benguela.
	Mataman,	No towns.
	Ajan,	Brava.
	Languebar,	Melinda.
	Monomotapa,	Monomotapa.
	Monemugi,	Chicova.
	Safola,	Safola.
	Terra de Nat.	No towns.
	Caffraria, or Hottentot,	Cape of Good Hope.

The principal islands of Africa, in the Indian Ocean, are, Babel Mandel, at the entrance of the Red Sea, Zocotra, the Comorra isles, Madagascar, Mauritius, and Bourbon. Zocotra is famous for its aloes, which are esteemed the best in the world.

The first island we touch at in the Atlantic Ocean, is the small but pleasant St. Helena, at which place all the English East India ships stop to get fresh water and fresh provisions in their way home. Near which, are the Guinea Islands, St. Matthew, St. Thomas, and others, not far from the coasts under the equinoctial line, belonging to the Portuguese. Thence, north-

ward, opposite to Cape Verd, is a large tract of islands, so called from their verdure. We see, higher north, the pleasant Canaries, from whence first came our Canary wine, and the pretty singing birds called Canary birds. The ancients called them the Fortunate Isles, and placed there the Elysian fields. They are ten or twelve in number; the chief are, Teneriffe, Gomera, Ferro, and Great Canary. The fertile islands of Madeira, lie still higher north, and are famous for the best stomachic wine.

The Azores, or western isles, lie nearly at an equal distance from Europe, Africa, and America.

One of the most remarkable mountains in Africa, is Atlas, between Barbary and Biledulgerid, supposed by the ancients to be the highest in the world, whence came the fable of Atlas, a giant, bearing the heavens upon his shoulders. The mountain of the moon, in Ethiopia, is always covered with snow and ice; and the exceeding high hill, or peak of Teneriffe, one of the Canary isles, in form of a sugar-loaf, may be seen one hundred and twenty miles distant.

The most famous rivers in Africa, are, the Nile, and the Niger. The Nile runs through all the eastern part of the country, and empties itself into the Mediterranean Sea, by many mouths, in the country of Egypt. The river Senegal, anciently called Niger, runs through Negroland, into the Atlantic Ocean.

CHAP. V.

AMERICA.

THIS great western continent, frequently denominated the New World, extends from the eightieth

degree north, to the fifty-sixth degree south latitude; stretching between 8 and 9000 miles in length, and in its greatest breadth 3690. It sees both hemispheres, has two summers, and a double winter, and enjoys all the variety of climates which the earth affords. It is washed by the two great oceans. To the eastward it has the Atlantic, which divides it from Europe and Africa; to the west it has the Pacific, or great South Sea, by which it is separated from Asia. By these seas it may, and does carry on a direct commerce with the other three parts of the world. It is composed of two great continents, one on the north, the other on the south, which are joined by the kingdom of Mexico, which forms a sort of isthmus 1500 miles long, and in one part, at Darien, so extremely narrow, as to make the communication between the two oceans by no means difficult, being only sixty miles over. In the great gulf, which is formed between the isthmus and the northern and southern continents, lie a multitude of islands, many of them large, most of them fertile, and denominated the West-Indies, in contradistinction to the countries and islands of Asia, beyond the Cape of Good Hope, which are called the East-Indies.

The grand divisions of North America:

Colonies.	*Chief towns.*
New Britain, province of Quebec,	Quebec.
New Scotland,	Halifax.
New Brunswick,	Shelburne.
New England,	Boston.
New York,	New York.
New Jersey,	Perth Amboy.

Pennsylvania,	Philadelphia.
Maryland,	Annapolis.
Virginia,	Williamsburgh.
North Carolina,	Edenton.
South Carolina,	Charles Town.
Georgia,	Savannah.
East Florida,	St. Augustine.
West Florida,	Pensacola.
Louisiana,	New Orleans.
New Mexico,	St. Fee.
California,	St. Juan.
Mexico, or New Spain,	Mexico.

The British possessions in North America, are, the province of Quebec, Nova Scotia, and New Brunswick.

The principal islands of North America, are,

	Islands.	*Chief towns.*
	Newfoundland,	Placentia,
	Cape Breton,	Louisburgh.
	St. John,	Charlotte Town.
West India Islands.	The Bermuda Isles,	St. George.
	The Bahama Isles,	Nassau.
	Jamaica,	Kingston.
	Barbadoes,	Bridgetown.
	St. Christopher's,	Basse-terre.
	Antigua,	St. John's.
	Nevis,	Charles Town.
	Monserrat,	Plymouth.
	Barbuda.	
	Anguilla.	
	Dominica.	
	St. Vincent,	Kingston.

	Islands.	*Chief towns.*
West India Islands.	Granada,	St. George's.
	Cuba,	Havannah.
	Hispaniola,	St. Domingo.
	Porto Rico,	Porto Rico.
	Trinidad,	St. Joseph.
	Margarita.	
	Martinico,	St. Peter.
	Guadaloupe,	Basse-terre.
	St. Lucia.	
	Tobago.	
	St. Bartholomew.	
	Deseada.	
	Marigalanta.	
	St. Eustatia,	The Bay.
	Curassou.	
	St. Thomas.	
	St. Croix,	Basse End.

The chief *mountains* are the Apalachian, which divide Florida from the more northern countries.

The principal *rivers* of North America, are, the Mississippi, which discharges itself into the gulf of Florida; the Ohio, and the river St. Lawrence.

Things most *curious* in this part, are the prodigious falls of water near Niagara; also the cabbage-tree, one hundred feet high, with no branches but at the top; the calabash, which grows high, like a gourd, of which, cut into different sizes, they make their dishes, pails, &c. and the cassavi roots, of which the Indians usually make their bread.

Grand divisions of South America:

Nations.	*Chief cities.*
Terra Firma,	Panama.
Peru,	Lima.
Guiana,	Surinam. Cayenne.
Brazil,	St. Sebastian.

Amazonia, a large country little known to the Europeans.

Nations.	*Chief cities.*
Paraguay,	Assumption.
La Plata,	Buenos Ayres.
Chili,	St. Jago.
Terra Magellanica, or Patagonia,	Cape Virgin Mary.

The Leeward Islands are situated on the east of Terra Firma, and belong mostly to the Spaniards. Quite at the foot of South America, you may see the inhospitable rocks of Terra del Fuego, or Land of Fire, whose aspect affords a prospect the most dreary and uncomfortable that can be imagined. It appears without the least mixture of earth or mould, like one continued chain of inaccessible rocks, terminating at a prodigious height, in innumerable ragged points, clothed with eternal snow, and the hills whereon they rise, seem to be cleft asunder, as if by earthquakes; the chasms, horrible to behold, extending through the main substance of the rock, almost to the bottom.

The chief *mountains* are the Andes, a long ridge of mountains from the south of America toward the north. Travellers suppose them to be the highest in the world.

The chief *rivers* are the Amazon, with all its branches; Rio de la Plata, or the River of Plate.

The late *discoveries* are the Islands Otaheite, the Society and Friendly Islands, the New Hebrides, New Caledonia, New Zealand, New Guinea, New Britain, and New Ireland, the Sandwich Islands, and New Holland. This vast island considerably exceeds all Europe in extent, but is neither fertile nor populous. The inhabitants are without either arts or industry, living in tents, and having no towns. It was visited by Captain Cook, who sailed along the coasts, and gave the eastern part the name of New South Wales. Botany Bay, on the east side of this island, is the place to which the British government transport their men and women convicts.

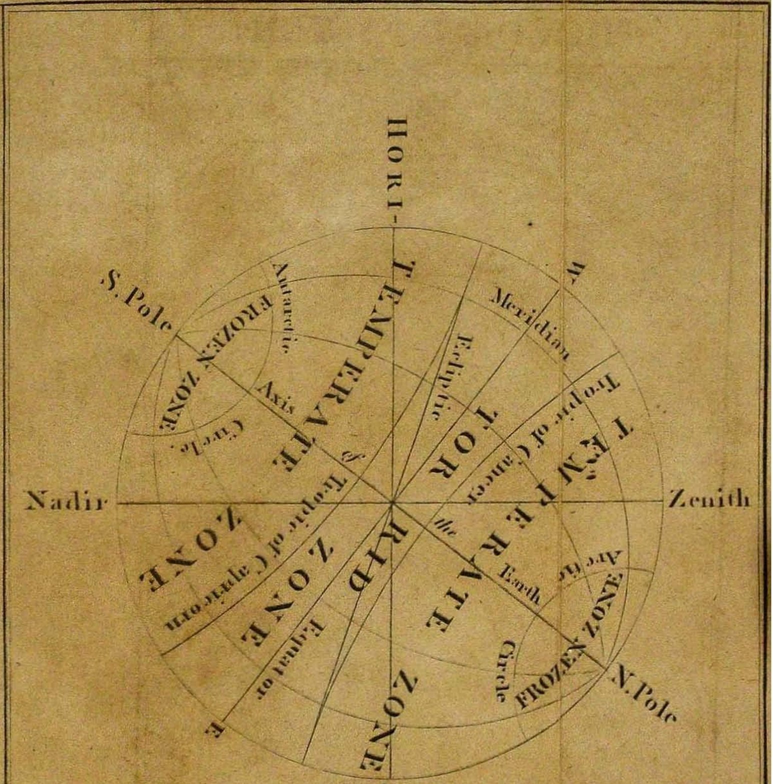
THE ANNEXED PLATE IS ADDED,

That the young pupil may have a clearer idea of the world he inhabits. It is a representation of the Surface of an Artificial Globe, whereon is delineated the divisions of the earth, sea, &c.

The *Axis* of the earth is a straight line passing through the center of the globe, upon which it is supposed to turn.

The *Poles* are the two extremities of the axis, one called the north, the other the south Pole.

The *Meridians* are those circles which pass from pole to pole, and divide the globe into the eastern and western hemisphere; they are called *Meridians* because when the sun is in the south part of either of these circles, it is then *mid-day* in all places lying under that line.



HORIZON
Zenith
Nadir
S. Pole
N. Pole
Meridian
Ecliptic
Axis of the Earth
Antarctic Circle
Arctic Circle
Tropic of Cancer
Tropic of Capricorn
Equator
FROZEN ZONE
TEMPERATE ZONE
TORRID ZONE
TEMPERATE ZONE
FROZEN ZONE

The *visible Horizon* is that circle we see in a clear day, where the earth and sky seem to meet.

The *Zenith* is an imaginary point in the heavens, exactly over our head; by some termed the uppermost pole of the horizon.

The *Nadir* is the lower pole of the horizon; that is, an imaginary point directly under our feet, and consequently diametrically opposite to the Zenith.

The *Cardinal Points* are the four principal points of the horizon, north, south, east, and west.

The *two Tropics* are circles drawn parallel to the Equator, at 23½ degrees from it; the nothern is called the Tropic of Cancer; the southern the Tropic of Capricorn.

The *Polar Circles* are 23½ degrees from the Poles; the northern is called the Arctic Circle, the southern the Antarctic.

The *Ecliptic* is a great circle dividing the globe into two equal parts, and is supposed to represent that path in the heavens, which the sun seems to describe, by the earth annually revolving round it. It is called the *Ecliptic*, because the Eclipses must necessarily happen in, or near this line, where the sun always is.

A *Zone* is a portion of the earth's surface, contained between two parallel circles; there are five in number, viz, one torrid, two temperate, and two frigid Zones.

The *torrid Zone* is that part of the earth between the Tropics. This was thought by the ancients to be uninhabited, because it is continually exposed to the direct rays of the sun.

The *two temperate Zones* are comprised between the Tropics and Polar circles; they are called temperate,

because meeting the sun's rays obliquely, they enjoy a moderate degree of heat.

The *frigid Zones*, so called on account of the extreme cold there, are contained between each polar circle and its pole.

After reading this summary, the pupil may be further instructed with " A short Introduction to Geography for Children," by Thomas Keith; and " Geography and History, selected by a Lady for the Use of her own Children."

CHAP. VI.

OF METALS, WITH A SHORT ACCOUNT OF GOLD AND SILVER.

THERE are six kinds of metals, namely, gold, silver, copper, iron, lead, and tin; to which some add mercury, as a seventh.

Gold is the heaviest, purest, and most ductile of all metals. It is chiefly found in mines, though sometimes gold dust is found in the sand and mud of rivers, particularly in Guinea; and hence the name for our largest gold coin. There are gold mines in most countries in the world; in Europe, however, they are very sparingly scattered. The mines of Chili and Peru, in America, are the richest; but very fine gold is found in some parts of the East-Indies.

Of all the properties of gold its ductility is the most surprising. A single ounce of gold may be extended by the gold-beater's hammer to a surface of near 150 square feet; and by the gold wire-drawers it will be extended to upwards of a thousand, yet remain so en-

tire, as that the least flaw shall not be perceived, even by the help of the microscope.

Silver is a white rich metal, and, except gold, the finest and most ductile of any. There are silver mines in all parts of the world; but those of Potosi in Peru, and some other parts of America, are by far the richest, and yield the ore in as great plenty as when first discovered; with this difference only, that the veins, which were then almost on the surface of that famous mountain, are now sunk so deep, that the workmen go down to them by a descent of four or five hundred steps.

CHAP. VII.

OF COPPER AND IRON.

COPPER is a hard, dry, heavy, ductile metal, abounding in vitriol and ill-digested sulphur, and found in most parts of Europe, but particularly in Sweden. It is dug up in large fragments of ore, which are first beaten small, then washed to separate the earthy parts from it, then smelted and cast into a kind of moulds to form large blocks, called salmons, or copper-cakes. This is the ordinary copper. There is a finer kind called rose copper, and a still finer, called virgin copper, which is sometimes, but seldom, found pure in mines. It is the lowest-priced metal used for coin.

Iron is a hard, dry, fusible, and ductile metal, consisting of earth, salt, and sulphur, but all impure, ill-mixed, and ill-digested, which renders it liable to rust. By often heating it in the fire, hammering it, and let-

ting it cool of itself, it is softened; by extinguishing it when hot in water, it is hardened.

There are several iron works in England; but the most considerable are those in the forest of Dean, in Gloucestershire, where the ore is found in great abundance.

Though iron is the cheapest, it is certainly the most useful of all kinds of metal, and seems indispensibly necessary to the carrying on every art and manufacture. Nay, it appears to be a great mean of polishing and civilizing mankind; at least much more so than the more precious metals. There have been instances of nations possessed of great quantities of gold, who yet remained in a state of barbarism. This, it is well known, was the case with the Americans, upon the first discovery of their country by Columbus. But there never was an instance of a nation, which understood the art of manufacturing iron, that did not attain in time, to at least some degree of civilization.

CHAP. VIII.

OF LEAD, TIN, AND MERCURY.

LEAD is a coarse, heavy, soft metal, containing a little mercury, some sulphur, and a great deal of earth. It is found in most countries; but it is particularly plentiful in England. The various purposes to which it may be applied, are pretty generally known.

Tin is a whitish metal, not so hard as silver, nor so soft as lead; but though not so soft, it is more easily melted. The stannaries of tin mines in Cornwall and Devonshire furnish the greatest part of the tin which is consumed in Europe. Six pounds of brass, and fif-

teen pounds of lead, to an hundred pounds of tin, make the *composition* which is called *pewter*.

Mercury, or, as it is vulgarly called, quicksilver, is an imperfect metal, neither ductile, nor malleable, that is, neither capable of being drawn into length, nor spread into breadth, by the hammer. It consists entirely of a fluid matter, resembling melted silver. It is found chiefly in Hungary, Spain, Italy, and Peru. The greatest part of what is used in England is brought from the mines of Friuli, in Italy.

Mercury is the heaviest of all metals, except gold. It is also the most fluid of all bodies ; that is, its parts adhere the least to each other, and are the most easily separated. It is extremely volatile, and may be turned into fume by a very gentle heat. It easily enters and closely adheres to gold, less easily to silver, with difficulty to copper, and to iron not at all.

CHAP. IX.

OF PRECIOUS STONES.

THE *diamond*, by the ancients called adamant, is the most valuable of all precious stones. Its goodness consists in its colour, lustre, and weight ; and its defects are flaws, veins, specks of red or black sand, and a bluish, or yellowish cast.

Diamonds are found only in the East Indies, sometimes in mines, and sometimes in the sand of rivers. They are the hardest of all gems, insomuch that they can only be cut and ground by themselves, and their own substance.

The manner of preparing them is first to rub them

hard against each other, and the dust, which is thus rubbed off the stones, serves to grind and polish them. This is done by means of a mill, which turns a wheel of soft iron, sprinkled over with diamond dust, mixed with oil of olives. The same dust, well ground, and diluted with water and vinegar, is used in the sawing of diamonds; which is performed with an iron or brass wire as fine as a hair.

The *ruby*, which is next in value and esteem to the diamond, is of a crimson colour, somewhat inclining to purple. The *garnet* is somewhat like it, and perhaps of the same species. The *hyacinth* is sometimes of a deep red, and sometimes of a yellow colour. The *amethyst* is of a bright purple, and the *emerald* of a green. The *sapphire* is a sky blue, and the *beryl*, a bluish green. The *topaz* or *chrysolite* is of a gold colour. These are all transparent.

There are others that are opaque, or only half transparent; such as the *cornelian*, which is the best, and of a pale red, and sometimes bordering upon orange; the *onyx*, of a greyish cast; the *turquoise*, something between a blue and green; and the *lapis lazuli*, which is studded with spots of gold on an azure ground.

CHAP. X.

OF THE MAGNET OR LOADSTONE.

THIS wonderful stone is usually found in iron mines, and is produced in most parts of the world. It is a heavy stone, something resembling the ore of iron, only closer and more ponderous.

It is endowed with some surprising qualities and powers. It attracts iron, which will adhere to it very

strongly ; and this virtue it also communicates to the iron so attracted.

In every magnet there are two poles, one of which points northward, the other southward ; and if the magnet be divided into ever so many pieces, the two poles will be found in each piece.

It is this property which has rendered it so useful in improving the art of navigation ; for this gave rise to the mariner's compass, by means of which a sailor can now conduct his ship to the East or West Indies, or even round the world, with as much ease, and as little danger, as he could formerly make a voyage to the coast of Norway or Holland.

The improvements in ship-building have kept pace with those of navigation. To be convinced of this, one need only consider the infinite difference there is between a first-rate man of war and an Indian canoe, which seems to be little better than a large butcher's trough ; and yet this was probably the first form of all sailing vessels.

Even after men had learnt to build ships with more art, and of a larger size, they never ventured out of sight of land without fear or trembling, because they could not tell whether they were sailing east or west, south or north, or to what part of the world they were going. But now, in the darkest night, and in the midst of the boundless ocean, they know the course they are steering with as much certainty, as if it were in broad day, and within sight of land.

BOOK III.

CHRONOLOGY.

CHAP. I.

DEFINITION.

CHRONOLOGY is a science which treats of time, and shews the different measures or computations of it, that have been observed by different nations. It enables us truly to date the beginning and end of the reigns of princes, the births and deaths of eminent persons, the revolutions of empires and kingdoms, battles, sieges, or any other remarkable events. Without chronology, that is, without distinguishing the times of events as clearly as the nature of the case will well admit, history would be little better than a *heap* of confusion, destitute of light, order, or beauty.

In the study of history, an *exact chronology* is like Ariadne's *clue*, which guides us through the different windings of the *labyrinth;* and the mind being thus conducted, the ideas we obtain from reading are more distinct, and more easily fixed in the memory.

In the chronology of ancient kingdoms, it must be confessed, there is the utmost uncertainty, arising chiefly from the vanity of each in claiming the greatest antiquity. Thus the priests of Egypt, as Herodotus informs us, reckon from the reign of Menes to that of Sethon 341 generations, three of which they supposed equal to one hundred years; so that, according to this computation, the whole time, from one reign to the other, was 11,340 years. The Chaldeans piqued

themselves on their antiquity, pretending to have observed the stars 473 thousand years. Other eastern nations made the like extravagant pretensions; all which were favoured by their having no exact accounts of time.

The chronology of the ancient Greeks is equally uncertain. Their writings are full of fables, being all in verse, (from which fiction is inseparable,) till the conquest of Asia by Cyrus the Persian. They did not begin to set down the generations, reigns and successions, in numbers of years, till some time after the death of Alexander the Great. This makes their chronology very uncertain; and indeed such it was reputed by the Greeks themselves, as appears from several passages in Plutarch.

In the chronology of the Latins we find still greater uncertainty. In a word, not one of the European nations had any chronology at all, till the time of the Persian empire, which began 536 years before the birth of Christ; and whatever chronology they now have of more ancient times, has been framed since by reasoning and conjecture. Therefore, on a strict and impartial examination, the Jewish records, exclusive of their divine authority, will appear to be the most certain and authentic, and consequently the surest foundation of chronology.

CHAP. II.

OF TIME AND ITS PARTS.

TIME is distinguished into *absolute* and *relative*.— Absolute time is considered as in itself, and without

any relation to bodies or their motions. This flows equally, never proceeding either faster or slower. Relative time is that which is measured or estimated by certain motions, as those of the sun, moon, clocks and watches. This is otherwise called *apparent* or *vulgar* time.

The usual divisions of time are years, months, weeks, days, hours, minutes, and seconds; besides periods, centuries, and cycles.

CHAP. III.

OF YEARS.

THE completest period of time is a year, in which all the seasons return in succession, and begin anew. It is that space of time wherein the earth finishes its course round the sun, returning to the same point from which it departed. This consists, according to our account, of 365 days, five hours, and forty-nine minutes; and is properly called the *tropical* or *natural year*. But that space of time in which the sun having departed from any fixed star, returns to the same again, is called the *sidereal* year, and contains 365 days, six hours, and ten minutes.

A *lunar* year is that space of time, in which the moon performs twelve complete revolutions round the earth, called *Lunations*. This year contains 354 days, eight hours, forty-eight minutes, and thirty-eight seconds.

Both the *tropical* and *lunar* years above described, are termed astronomical, as depending on the principles and observations of astronomy.

A *civil* year is the legal year, or that which each

nation or government has appointed for common use. This is made to consist of a certain number of whole days, without any odd hours or minutes, to render the computation of time more easy. It is distinguished into *common* and *bissextile.* The common year consists of 365 days; and the *bissextile*, or leap-year, which is every fourth, of 366.

The addition of a day to every fourth year is to make the *civil* year keep pace with the *natural* one: for the six hours, or thereabouts, by which the latter exceeds the former, in four years make a whole day; and therefore every leap-year the month of February has 29 days, which in the common year has but 28.

The intercalary, or additional day to every fourth year, was first appointed by Julius Cæsar, who ordered it to be inserted after the 24th of February, which was the sixth of the calends of March, according to the Roman way of reckoning. This year, therefore, they reckoned the 24th of February twice over, having, as they expressed it, *bis sexto calendas Martias;* and hence the year had the name of bissextile. But amongst us, this intercalation is not made by telling the 24th of February twice, but by adding a day to the end of that month.

It is called *leap-year*, because in the common years any fixed day of the month changes successively the day of the week; but in the *bissextile* it skips or *leaps* over one day. For instance, suppose the 1st of May in a common year falls on Tuesday, if the next be a common year it will be on a Wednesday; but if it be a leap-year, the adding of a day will cause it to skip over Wednesday, and fall on Thursday.

In order to know whether any particular year be leap-year or not, divide it by four, aud the remainder, if there be any, shews how many years have elapsed since leap-year; and, if there be none, then it is leap-year. Or you may omit the hundreds and thousands, and divide only the units and tens by four, and the result will be the same. For example; divide 1792 by 4, the remainder is 0; or divide only 92 by 4, the remainder is likewise 0; consequently 1792 is leap-year. Divide 1793 by 4, the remainder is 1; or divide only 93 by 4, the remainder is likewise 1; consequently 1793 is the first year after leap-year.

The *lunar* year, as instituted by Romulus, the founder of Rome, consisted but of ten months; but as this was short of the sun's period by two months, these were afterwards added by his successor, Numa Pompilius, and were called January and February. By these means the Roman year consisted of twelve months. But the months of this year being only lunar months, of $29\frac{1}{2}$ days each, this *civil lunar* year consisted but of 354 days. The earth, however, in revolving once round the sun, was found in process of time to take up 365 days, or eleven days more than the lunar year. These were added to it by Julius Cæsar, and on that account it was called the *Julian year*.

The *Gregorian year* is a correction of the Julian made by Pope Gregory XIII. and that with very good reason; for the Julian year of 365 days and six hours exceeding the true *solar year* by eleven minutes, this excess in 131 years amounts to a whole day. The council of Nice, in the year of Christ 325, appointed the celebration of Easter to be always on the first Sunday after the full moon that came next after the vernal

equinox, which was then on the 21st of March. Pope Gregory, however, in the year of our Lord 1582, observed, that the above-mentioned fault of the Julian year had thrown the equinoxes ten days more backward, than they were at the time of the said council, so that the vernal equinox was then on the 11th of March. This occasioned great irregularity with respect to the time of celebrating *Easter*, and consequently all other *Moveable Feasts*. The Pope, therefore, to correct this error, ordered ten days to be suppressed in the month of October 1582, that so the equinox might be reduced to the 21st of March, on which day it fell at the time of the Nicene council. And that this variation might not happen again, it was further ordained, that every hundredth year, which in the Julian account was a leap-year, should in this be only a common year, and consist but of 365 days; but as that was too much, every four hundredth year was to remain a leap-year or bessextile.

This reformation of the calendar is called the Gregorian account, or New Stile; and according to this stile was the calendar rectified in England in 1752, by throwing out eleven days in the month of September, as from the council of Nice to that year, 1427 years had elapsed; and, besides, the beginning of the civil year was fixed to the first day of January.

This emendation adjusts the year and seasons pretty near the truth, and has been received not only in all popish countries, but in Holland, Denmark, Sweden, England, and the Protestant States of Germany.

CHAP. IV.

FORMS OF CIVIL YEARS.

THERE have been, and still are, various forms of *civil* years, in different nations, four of which I shall take some notice of.

1. The *ancient Roman year* of Romulus consisted of ten months, namely, *Martius* of 31 days, *Aprilis* of 30, *Maius* of 31, *Junius* of 30, *Quintilis* of 31, *Sextilis* of 30, *September* of 30, *October* of 31, *November* of 30, *December* of 30; in all 304 days.

2. The Roman year of *Numa*, consisted of twelve months. *Januarius* had 29 days, *Februarius* 28, *Martius* 31, *Aprilis* 29, *Maius* 31, *Junius* 29, *Quintilis* 31, *Sextilis* 29, *September* 31, *October* 29, *November* 29, *December* 29; in all 355.

The months called Quintilis and Sextilis, from their order in Romulus's year, were changed into Julius and Augustus*, in honour of Julius Cæsar and his successor Augustus.

3. The *Julian* year consists of twelve months, viz. *January* of 31 days, *February* of 28, *March* of 31, *April* of 30, *May* of 31, *June* of 30, *July* of 31, *August* of 31, *September* of 30, *October* of 31, *November* of 30, *December* of 31; in all 365.

Every fourth year, in the Julian account, has 366 days, February then having 29, as we have before observed.

The *Gregorian* year has the same number of months and days as the Julian, the only difference being that

* Our July and August.

each month in the former begins *eleven* days sooner than in the latter.

4. The *Jewish* year consists of twelve months, *Nisan* or *Abib* has 30 days, *Jiar* or *Zius* 29, *Siban* or *Sivan* 30, *Thamus* or *Tamus* 29, *Ab* 30, *Elul* 29, *Tisri* or *Ethanim* 30, *Marchesvan* or *Bul* 29, *Cisleu* 30, *Tebeth* 29, *Shebat* or *Schebeth* 29, *Adar* 29; in all 354.

This is made to agree with the *solar year*, by adding eleven, and sometimes twelve days.

It may not be amiss to observe, that as the form of the year is various among different nations, so likewise is its beginning. The Jews, as most other nations of the East, had a civil year, which commenced with the new moon in September; and an ecclesiastical year, which commenced from the new moon in March. The Persians begin their year in the month answering to our June. The Chinese, and most of the Indians, begin it with the first moon in March; and the Greeks with the new moon that happens next after the summer solstice.

In England, the civil or legal year formerly commenced on the 25th day of March, and the historical year on the first day of January. But since the alteration of the stile, in 1752, the civil year, in this country, as I observed before, has likewise begun on the first of January.

From what is said of the patriarchs having lived so many centuries, and some even to the age of nine hundred years, may we not believe that the *years* were then *shorter* than at present? By no means. For we learn from Moses, that the year consisted then, as now, of twelve months. In his history of the deluge, he tells us, that after the rains, which began on the 17th day

of the *second* month, had fallen upon the earth for the space of forty days and forty nights, it was only in the *seventh* month that the ark, which floated upon the waters, rested upon Ararat, a mountain in Armenia; and, in the *tenth*, that land began to appear.

The changes and varieties that happen in nature, by the annual revolution of the earth round the sun, are called the seasons. Spring, Summer, Autumn, and Winter, are the names of the seasons, and each season continues three months. Spring begins on the 21st of March, Summer on the 21st of June, Autumn on the 23d of September, and Winter on the 21st of December.

CHAP. V.

OF MONTHS.

THE first and principal division of the year is into parts called months, which are usually twelve; and these are either *astronomical* or *civil*.

An *astronomical* or *natural* month is that which is measured exactly by the motion of the earth or moon, and is accordingly either *lunar* or *solar*.

A *lunar* month is the time the moon takes to revolve round the earth, which she performs in twenty-seven days, seven hours, forty-three minutes, and eight seconds.

A *solar* month is that space of time in which the earth runs through one of the signs of the *Zodiac*. And as the earth constantly travels through all the twelve signs in 365 days, five hours, and forty-nine minutes, the quantity of a mean solar month is found by dividing that number by twelve. And hence it appears

that each of these months, one with another, contains thirty days, ten hours, twenty-nine minutes, and five seconds.

Civil months are those which are framed to serve the uses of life, being made to consist of a certain number of whole days, approaching nearly to the quantity of astronomical months, either lunar or solar.

Civil lunar months consist alternately of twenty-nine and thirty days; so that two of them are equal to two astronomical ones, excepting the odd minutes.

Civil solar months usually consist of thirty and thirty-one days alternately, except one of the twelve, which every fourth year has twenty-nine days, in others but twenty-eight.

CHAP. VI.

OF WEEKS AND DAYS.

A MONTH is divided into four parts called weeks, each consisting of seven parts called days. Of these months there are thirteen in a Julian year, and one day over; of weeks there are fifty-two, and of days 365, as before observed.

The days of the week are called Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday. To these days the Pagans gave the names of the sun, moon, and planets; to the first the name of the *Sun*, to the second of the *Moon*, to the third of *Mars*, to the fourth of *Mercury*, to the fifth of *Jupiter*, to the sixth of *Venus*, and to the seventh of *Saturn*.

All nations do not reckon the days in the same order. The Christians count from Sunday, in memory of the

resurrection of our Saviour, the Jews from Saturday, and the Mahometans from Friday.

A day is either *artificial* or *natural.* An *artificial* day is the space of time, which passes between the sun's rising and setting, or the time of his stay above the horizon. In opposition to which, the time between his setting and rising, or his duration under the horizon, is called *night.* A *natural* day comprehends both, being the time in which the sun makes one entire revolution; or, to speak more properly, the time in which the earth revolves once about its axis.

The *natural* day is divided into morning, noon, evening, and midnight; and consists of twenty-four hours.

The present Greeks begin their day at sun-rising, as did the ancient Babylonians, Persians, Syrians, and most other eastern nations. The modern Italians and Chinese reckon it from sun-setting; as did the ancient Jews, Athenians, Bohemians, and Silesians. The Arabians, and modern astronomers, begin the day at noon. The English, French, Dutch, Germans, Spaniards, Portuguese, and Egyptians, begin it at midnight.

The length of the day and night is *equal,* in England, *twice* every year, once on the 21st of March, and again on the 21st of September. Both these times are called the *equinoxes.*

Those intensely hot days between the 19th of July and the 28th of August, are called *dog-days,* because the star called the *canicular,* or the great dog-star, during that time, rises and sets with the sun.

The *longest* day is on the 21st of June, at the beginning of Summer, after which the days begin gradually to decrease. This is called the *summer solstice,* because

then the sun stops short in his journey towards the north, and begins to return southward.

The *shortest* day is on the 21st of December, at the beginning of Winter, after which the days begin gradually to increase This is called the *winter solstice*, because then the sun stops short in his course towards the south, and begins to return northward.

This change, however, is not the same in every part of the earth. There are, for example, some countries, where the length of the day and night is always exactly, or nearly the same*, and others where the night continues always six months, and the day consequently as many†.

The *Romans* divided their months into *calends*, *nones*, and *ides*; calling the first day of every month its *calends*.

CHAP. VII.

OF HOURS, MINUTES, AND SECONDS.

AN *hour* is the twenty-fourth part of a natural day. Different people reckon the hours in a different manner. Babylonish hours are those, which are counted from sun-rising in a continued series of twenty-four. Italian hours are those reckoned from sun-setting in a like series. European hours are those counted from midnight, twelve from thence to noon, and from noon to midnight twelve more. Those which commence their order from noon, are called *astronomical*, because used by astronomers.

An *hour* is usually divided into sixty equal parts called *minutes*; each minute into sixty *seconds*; these

* At the Equator. † At the Poles.

again into sixty *thirds*, and so on. The Jews, Chaldæans, Arabs, and other eastern people, divide the hours into a *thousand* and *eighty* scruples, eighteen whereof are equal to our minute.

CHAP. VIII.

OF CYCLES, AND THE DOMINICAL LETTER.

A CYCLE is a circle of years, months, and days, used by chronologers, to signify a perpetual round or circulation of the same parts of time, proceeding orderly from first to last, and recurring again from last to first, successively, and without interruption.

As the annual motion of the sun, and other heavenly bodies, cannot be measured exactly without any remainder of minutes, seconds, &c. to swallow up these fractions in whole numbers, that is, such as only express days and years, *cycles* have been invented; which, comprehending several revolutions of the same body, replace it, after a certain number of years, in the same point of the heavens whence it first departed; or, which is the same thing, in the same place of the civil calendar.

The most famous cycles are, the *Cycle of the Moon*, the *Cycle of the Sun*, and the *Cycle of Indiction*.

The cycle of the moon, or *lunar cycle*, called also the *Metonic* cycle, from its inventor *Meton*, an Athenian, is a circle or revolution of nineteen years, in which time the new and full moons are supposed to return to the same day of the month in the Julian calendar.

The cycle of the sun, or *solar cycle*, is a revolution of twenty-eight years. When these are elapsed, the

Dominical, or Sunday Letters, in the calendar, return into their former place, and proceed in the same order as before. It is from these *Sunday Letters,* and not from any regard to the sun's course, that the cycle has obtained its name.

The seven first letters of the alphabet, A, B, C, D, E, F, G, are used in our almanacks to denote the days of the week in order, from the first to the seventh, throughout the year. Now that which stands against Sunday, or the Lord's-day, in Latin *Dies Dominica,* is called the *Dominical Letter,* and serves to denote that day, as the other letters do the other days of the week.

The Dominical Letter is different every year. As the common year consists of 365 days, that is, fifty-two weeks, and one day, it is evident the year must begin and end on the same day of the week, and therefore the next year will begin on the day following. This occasions the first Sunday in January to fall every year a day sooner than it did the year before, and consequently to be denoted by a different letter.

In bissextile or leap year, consisting of 366 days, there are fifty-two weeks, and two days over; so that if the leap year begins on a *Sunday,* it will end on a *Monday,* and the next year begin on a Tuesday, and consequently the Dominical Letter will be removed two places backwards; that is, if it be A at the beginning of the leap-year, it will be F the year following. By this means, every fourth year being bissextile, the order of the Dominical Letter is interrupted, and the series does not return to its first state till after four times seven, or twenty-eight years. This period of time is the cycle of which we are now discoursing.

The Dominical Letters are not the same in the *Gre-*

gorian, as in the *Julian calendar*. By the reformation of the calendar under Pope Gregory, the order of the Dominical Letters was disturbed; for the year 1582, which at the beginning had G for its Dominical Letter, came to have C in October, by the retrenchment of ten days after the 4th of that month. And thus the Dominical Letter of the ancient Julian calendar is four places before that of the Gregorian, the letter A in the former answering to D in the latter.

In order to find the year of the *solar cycle* for any year of Christ, proceed thus: Add 9 to the given year, and divide the sum by 28; the remainder will shew the year of the cycle, and the quotient the number of cycles since the birth of Christ. If there be no remainder, the given year is the 28th or last year of the cycle. The reason of the addition of 9 is, because the ninth year of the solar cycle was past, when the first year of the *Christian* computation began.

The *cycle of indiction* is a circle or revolution of fifteen years, which when expired begins anew, and goes round again without intermission. This cycle has no relation to the celestial motions, but was made use of by the Romans to make known the time of paying certain taxes, or for other civil purposes. The popes have dated their bulls by the *year* of the *indiction* ever since the time of Charlemagne.

The commencement of this cycle being fixed to the 3d year before Christ, add 3 to the given year, divide the sum by 15, and the remainder will shew the year of indiction for any given year of Christ. If nothing remains, it is the 15th or last year of the cycle.

CHAP. IX.

OF THE GOLDEN NUMBER, AND THE EPACTS.

THE *prime* or *golden number* is a revolution of nineteen years, and is that particular number which shews the year of the lunar cycle for any given year. So that to find the year of the lunar cycle is to find the golden number. The numbers are called *golden*, because, being of excellent use, they were expressed in ancient calendars by figures of gold.

In the first year of our Saviour's nativity, the golden number was 2; therefore add 1 to any given year of Christ, divide the sum by 19, and the remainder is the golden number for that year. If nothing remains then 19 is the golden number. Thus, for instance, divide 1801 by 19, the remainder will be 15, the golden number for 1800.

This number is used in the calendar to shew the changes of the moon, and thereby to determine the time of Easter, and other moveable feasts.

Epacts are, as the word implies, *added numbers;* that is, a number of days added to the lunar year, to make it equal to the solar year. The solar year has 365 days, and almost six hours; and the lunar year 354 days, and upwards of eight hours. The *difference* is the *epact*. Now as this difference is not much short of eleven days, it was made the epact of the first year of the lunar cycle.

To find the epact; multiply the golden number by 11, from that product subtract 11, divide the remainder by 30, and the remainder of the division is the epact. For example: I would know the epact for the year 1800, of which the golden number is 15. This mul-

tiplied by 11, produces 165, from which 11 being substracted, there remains 154; and this, when divided by 30, has a remainder of 4, the epact required.

If after the operation nothing remains, then 30 is the epact.

CHAP. X.

HOW TO FIND THE MOON'S AGE, AND THE DOMINICAL LETTER.

IN order to find the *moon's age*, add to the epact for March 0 in common years, and, in leap-years, for April 2, for May 3, for June 4, for July 5, for August 6, for September 8, for October 8, for November 10, for December 10, for January 0, for February 2.

Having added to the epact the number for the month, according to the foregoing rule, add thereto the day of the month for which the moon's age is required. The sum of these three, if less than 30, is the moon's age; if more than 30, take 30 from it, and the remainder is the age of the moon.

The moon's age, substracted from the day of the change, leaves the day of full moon. When nothing remains, that day of the month is the day of change.

How old is the moon on the 20th of May, 1800? In order to resolve this question, add to the epact, already found to be 4, the number for May, which is 3, and 20, the day mentioned in the question, the sum will be 27 days, the answer required.

To find the *Dominical Letter*, take the year and its fourth part, and add them together; divide the sum by 7, and substract what remains, after that division, from the divisor 7, the remainder gives the answer, account-

ing the letter A for 1, B for 2, C for 3, D for 4, E for 5, F for 6, and G for 7.

The *Dominical Letter* for 1800 is found thus: The year and its fourth 450 makes 2250. After this sum is divided by 7, there remains 3, which substracted from 7, leaves 4 for a remainder, which is the Dominical Letter for the year 1800.

CHAP. XI.

OF PERIODS.

A PERIOD is a series, or circle, of a certain number of years, used for measuring or computing time. Of these there are several, most of which take their names from the persons who invented them.

Of the *Metonic* period, or *lunar cycle* of 19 years, it is needless to say any thing more. It has been sufficiently explained.

The *Calippic* period, so called from its inventor Calippus, is a series of 76 years, which being elapsed, Calippus supposed that the new and full moons would return to the same day of the solar year. This was intended as an improvement of the *Metonic* period.

The *Victorian* period is a series of 532 years, arising from the cycles of the sun and moon multiplied into one another. It was invented by *Victorius*, a French clergyman, about the middle of the fifth century, and used by the western churches for many ages, in computing the time of Easter, till the *Gregorian* reformation of the calendar.

The famous *Julian* period is a series of 7980 years, arising from the multiplication of the cycles of the *sun*, *moon*, and *indiction* into one another. This period is

said to have been invented by Joseph Scaliger; and is called Julian, as being adapted to the Julian year. As it commences before the creation, and still wants above 1500 years of being completed, it therefore comprehends all other cycles, periods, and epochas, and, in short, the times of all actions and events, from the begining of the world. Being thus a common receptacle, as it were, of all other epochas, it is of great use in reducing the years of any given epocha to those of another; for which purpose it was invented.

CHAP. XII.

OF EPOCHAS OR ÆRAS.

AN Epocha, or *Æra*, is a certain fixed point of time, made famous by some remarkable event; from whence, as from a root, the ensuing years are numbered or computed.

As there is no astronomical consideration to render one epocha preferable to another, their constitution is purely arbitrary, and therefore various epochas have been used at different times, and among different nations.

The *Christian epocha* is the common epocha throughout Europe, commencing on the 25th of December, the day of our Saviour's nativity; or rather, according to the usual account, from his circumcision, on the 1st of January. In those countries, which observe the Julian calendar, it commences from the incarnation, on the 25th of March, nine months prior to the nativity.

The author of this epocha, or way of computing from Christ, was Dionysius Exiguus, a Roman abbot,

about the beginning of the sixth century. Till his time the Christians computed their years, either from the persecution under Dioclesian, or from the building of Rome, or according to the custom of the people among whom they lived.

The calculations, however, of our modern astronomers, seem plainly to prove that the *Dionysian* account places the birth of our Saviour several years too late. But that is not material.

The *Epocha of the Creation*, according to the *Jewish* computation, is the year of the *Julian* period 953, answering to the year of Christ 3761, and commencing on the 7th of October. Hence, if we substract 952 from any given year of the Julian period, the remainder is the corresponding year of the Jewish epocha of the creation.

The *Epocha of the Olympiads*, which was used principally by the Greeks, is very famous in ancient history. It took its rise from the Olympic games, which were celebrated at the beginning of every fifth year, near Olympia, a city of Elis, in Peloponnesus. An Olympiad, therefore, was a period of four years; and by these periods the Greeks reckoned their time, the year in which the games were celebrated being counted the first year of each Olympiad.

The beginning of the first *Olympiad* is referred to the year of the *Julian* period 3938, or 776 years before Christ.

The *Epocha of the building of Rome*, was the principal one among the Romans. This epocha is the year of the *Julian* period 3961, and answers to the year 752 before Christ, commencing on the 21st of April.

The *Dioclesian Epocha*, or Epocha of the *Martyrs*, commences in the year of Christ 284, and that of the Julian period 4997. It obtained its name from the great number of Christians who suffered martyrdom in the reign of the emperor Dioclesian; and was generally used by Christians till the year 532, when the way of computing from the birth of Christ began to prevail.

The *Epocha of the Hegira* is used by the *Turks*, *Arabs*, and others who profess the Mahometan faith. It commences on the 16th of July, in the year of Christ 622, and of the *Julian* period 5335. The word *Hegira* signifies *flight;* the event which gave occasion to this epocha being Mahomet's flight from *Mecca*. The magistrates of that city, finding that his imposture tended to disturb the public peace, were determined to cut off the author of it, to prevent the farther spreading of the mischief. But Mahomet, having timely notice of their design, fled by night to Medina, another city of Arabia, in the year of our Lord above-mentioned; and this is the principal æra from which the Mahometans compute their time.

CHAP. XIII.

OF A CENTURY, A LUSTRUM, A JUBILEE, AND OTHER PARTICULARS.

A *CENTURY*, or an *age*, is a course of an hundred years.

A *lustrum* is a space of five years, used by the Romans, at the end of which a review of the people was made, first by the kings, then by the consuls, but after the year 310 by the censors, who were magistrates

created for that very purpose. After the *census* was finished, an expiatory or purifying sacrifice was made, consisting of a sow, a sheep, and a bull, which were carried round the whole assembly, and then slain; and thus the people were said to be purified*. And because this was done at the end of every fifth year, hence *lustrum* is often put for the space of five years; especially by the poets.

At every *lustrum*, the senate itself was reviewed by one of the censors; and if any one, by his behaviour, had rendered himself *unworthy* of that high rank, or had sunk his fortune below that of a senator, his name was passed over by the censor in reading the roll of senators; and thus he was held to be excluded from the senate†.

A *jubilee* is a periodical festivity, or public rejoicing, on account of some remarkable event, or in memory of some eminent person.

According to the æra by which we reckon, we date the time of every memorable transaction, as,

A. M. *Anno Mundi*, in the year of the world.

A. D. *Anno Domini*, in the year of our Lord.

A. C. *Ante Christum*, before Christ; and sometimes B. C. is put for before Christ.

A. Æ. C. *Anno Æræ Christianæ*, in the year of the Christian æra.

A. U. C. *Anno Urbis conditæ*, in the year of the building of the city of Rome; or A. ab U. C. in the year from the building of the city; and so of the other epochas.

* Lustrari. † E senatu motus.

CHAP. XIV.

A CHRONOLOGICAL ACCOUNT OF MEMORABLE EVENTS FROM THE CREATION TO THE DELUGE.

ABOUT *four thousand* and *four* years before the Christian æra, God created the world, and our first parents Adam and Eve, placing them in the *Garden of Eden*, or the *terrestrial paradise*, from whence they were soon expelled for eating the forbidden fruit.

In the *second* year of the world, happened the birth of Cain, the first who was born of a woman. He killed his brother Abel, A. M. 129.

In the year of the world 987, Enoch, for his piety, was translated into heaven, being 365 years old.

In the year 1656, Methuselah, the longest liver of all men, died, aged 969 years.

The *same year* Noah, his wife and three sons, Shem, Ham, and Japhet, with their wives, entered the ark, which had been built by God's command. The flood began on the seventeenth day of the second month, answering to our October, and continued a whole year. Thus the *old world* was destroyed by a deluge.

CHAP. XV.

REMARKABLE EVENTS FROM THE FLOOD TO THE BUILDING OF SOLOMON'S TEMPLE, A. M. THREE THOUSAND.

MUCH about the year of the world 1757, the tower of Babel was built by Noah's posterity, upon which God miraculously confounded their language, and thus dispersed them into different nations.

Soon after this event, Noah is, with great probability, supposed to have departed from his rebellious offspring, and to have led a colony of some of the more tractable into the East. There, either he, or one of his successors, in the opinion of the most celebrated historians, founded the *ancient Chinese monarchy*.

In the year of the world 1770, the celestial observtions were begun at Babylon, the city which first gave birth to learning and the sciences. A few years after, Misraim, the son of Ham, founded the kingdom of Egypt, which lasted 1663 years, down to its conquest by Cambyses, in the year before Christ 525.

In the year 1945, Ninus, the son of Belus, founded the kingdom of Assyria, which lasted above 1000 years; and out of its ruins were formed the Assyrians of Babylon, those of Nineveh, and the kingdom of the Medes.

Prometheus first struck fire from flints, A. M. 2289.

In the year of the world 2433, Moses was born in Egypt, and *adopted* by Pharaoh's daughter, who educated him in all the learning of the Egyptians. Some years after, Cecrops brought a colony from Egypt into Attica, and *began* the kingdom of Athens, in Greece.

Scamander came from Crete into Phrygia, and began the kingdom of Troy, A. M. 2458.

In 2511, Cadmus carried the Phœnician letters into Greece, and built the citadel of Thebes. Two years after this, Moses performed a number of miracles in Egypt, and departed from that kingdom, together with 600,000 Israelites, besides children; which completed the 430 years of sojourning. They miraculously passed through the Red Sea, and came to the desert of Sinai,

where Moses received from God, and delivered to the people, the ten commandments, and the other laws, and set up the tabernacle, and in it the ark of the covenant.

In the year of the world 2519, the first ship that appeared in Greece was brought from Egypt by Danaus, who arrived at Rhodes, and brought with him his fifty daughters.

The first Olympic games were celebrated at Olympia, in Greece, A. M. 2551.

The year following, the first five books of Moses, (called the Pentateuch,) were written in the land of Moab, where he died soon after, aged 110.

In 2806, Helen, wife of Menelaus, king of Sparta, was carried away by Paris, which, in 2811, gave rise to the Trojan war, and siege of Troy by the Greeks, which continued ten years, when that city was taken and burnt.

In the year of the world 3000, the magnificent temple of Solomon, at Jerusalem, was finished.

CHAP. XVI.

MEMORABLE EVENTS FROM THE BUILDING OF THE TEMPLE TO THE BIRTH OF CHRIST.

A. M.

3097 HOMER, the first profane writer and Greek poet, flourished. Hesiod, another famous Greek poet, is supposed to have been nearly contemporary with Homer.

3110 Money was first made of gold and silver at Argos.

3135 The city of Carthage, in Africa, was founded by queen Dido.

A. M.

3251 The city of Rome, in Italy, was built by Romulus, first king of the Romans.

3284 The first eclipse of the moon on record.

3404 Thales of Miletus travelled into Egypt, consulted the priests of Memphis, acquired the knowledge of geometry, astronomy, and philosophy; returned to Greece, calculated eclipses, gave general notions of the universe, and maintained that one supreme intelligence regulates all its motions.

Maps, globes, and the signs of the Zodiac, were about this time, invented by Anaxamander, the scholar of Thales.

Sappho, the Greek lyric poetess, flourished at the same period.

3442 The first comedy at Athens, was acted upon a moveable scaffold.

3470 The first tragedy was acted at Athens, on a waggon, by Thespis.

3507 Pythagoras, the founder of the Pythagorean philosophy in Greece, flourished; with whom Anacreon, the Greek lyric poet, was nearly contemporary.

3518 Æschylus, the Greek tragic poet, first gained the prize of tragedy.

3569 Pindar, the Greek lyric poet, lived; and not many years after, flourished Herodotus, the first writer of profane history.

3604 Socrates, the founder of moral philosophy among the Greeks, who believed the immortality of the soul, a future state of rewards and punishments, and other sublime doctrines, was put

A. M.

to death by the Athenians. Of this, however, they soon repented, and erected to his memory a statue of brass.

Confucius, the Chinese philosopher, lived at the same time; and Thucydides, the Greek historian, about ten years after.

3645 Xenophon, the Greek philosopher and historian, flourished; and Plato, the disciple of Socrates, was almost contemporary with him.

3673 Alexander the Great, king of Macedon, conquered Darius, king of Persia, and other nations of Asia. In 3681, he died at Babylon, and his empire was divided by his generals into four kingdoms.

3681 Demosthenes, the Athenian orator, poisoned himself.

3720 Ptolemy Philadelphus, king of Egypt, employed seventy-two interpreters to translate the Old Testament into the Greek language, which is called the Septuagint.

3727 Theocritus, the first Greek pastoral poet; Euclid, of Alexandria, in Egypt, the mathematician; and Epicurus, founder of the Epicurean philosophy in Greece, rendered themselves famous by their writings.

3796 Archimedes, the Greek geometrician, flourished.

3845 Terence, of Carthage, the Latin comic poet, acquired great renown; as did also Diogenes, of Babylon, the stoic philosopher.

3858 Carthage, the rival of Rome, was levelled with the ground.

3880 Polybius, of Greece, the Greek and Roman historian, published his much-esteemed productions.

A. M.

3952 Julius Cæsar made his first expedition into Britain; and five years after, the battle of Pharsalia between Cæsar and Pompey was fought, in which the latter was defeated.

3953 Lucretius, the Roman poet, flourished.

3957 The Alexandrian library, consisting of 400,000 valuable books, was burnt by accident.

3959 The war of Africa happened, in which Cato *killed* himself. The solar year was also introduced by Cæsar.

3960 Cæsar, the greatest of the Roman conquerors, after having fought *fifty* pitched battles, and slain more than a million of men, and overturned the liberties of his country, was killed in the senate-house.

Diodorus Siculus, of Greece, the universal historian, and Vitruvius, the Roman architect, lived at the same time.

Cicero, the Roman orator and philosopher, was put to death. Cornelius Nepos, the Roman biographer, published his lives of eminent men.

3970 Sallust, the Roman historian, published his elegant productions. His history of Catiline's conspiracy is admirably well written.

3973 The battle of Actium was fought, in which Mark Antony and Cleopatra were totally defeated by Octavius, nephew to Julius Cæsar.

3974 Alexandria, in Egypt, was taken by Octavius; upon which Antony and Cleopatra put themselves to death, and Egypt was reduced to a Roman province.

A. M.

Dionysius, of Halicarnassus, wrote his Roman history.

3977 Octavius, by a decree of the senate, obtained the title of *Augustus Cæsar*, and an absolute *exemption* from the laws, and was, properly speaking, the *first Roman emperor*. At this time, Rome was *fifty* miles in circumference, and contained 463,000 men fit to bear arms.

4004 The temple of Janus was shut by Augustus, as an emblem of universal peace. Virgil, the famous epic and pastoral poet, and Horace, the celebrated lyric and satiric poet, flourished under Augustus, and were patronized by him.

JESUS CHRIST, the Saviour of mankind, was born, at *Bethlehem*, on the 25th of December.

CHAP. XVII.

REMARKABLE EVENTS DURING THE FOUR FIRST CENTURIES OF THE CHRISTIAN ÆRA.

A. D.

1 HEROD massacres all the infants of Bethlehem, thinking that certainly *Christ* would not escape.

12 Our Saviour disputes with the doctors in the temple.

17 Livy, the elegant historian, wrote his Roman history. Ovid, the ingenious elegiac poet; Celsus, the philosopher and physician; and Strabo, the Greek geographer, flourished about the same time.

33 Christ was crucified on Friday, April 3, at three o'clock, P. M. His resurrection took place

A. D.

on Sunday, April 5; and his ascension on Thursday, May 14.

Phædrus, the Roman fabulist, lived at this memorable period.

39 Pontius Pilate killed himself.

40 The name of Christians was first given at Antioch to the followers of Christ.

49 London was founded by the Romans; and in 368 they surrounded it with a wall, some parts of which are still observable.

63 Christianity is supposed to have been introduced into Britain by St. Paul, or some of his disciples.

64 Quintus Curtius, a Roman, wrote his history of Alexander the Great.

Seneca, of Spain, the philosopher and tragic poet, was put to death.

Lucan, the Roman epic poet, rendered himself famous by his *Pharsalia.*

70 Whilst the factious Jews were destroying one another with mutual fury, Titus, the Roman general, took Jerusalem, which was razed to the ground, and the plough made to pass over it.

79 Pliny, the elder, the Roman natural historian, flourished.

85 Julius Agricola, governor of South Britain, to protect the civilized Britons from the incursions of the Caledonians, built a line of forts between the rivers Forth and Clyde; defeated the Caledonians under Galgacus, on the Grampian hills; and first sailed round Britain, which he discovered to be an island.

A. D.

93 Josephus, the Jewish historian; Epictetus, the Greek stoic philosopher; and Quintilian, the Roman orator and advocate, were the ornaments of the age in which they lived.

99 Tacitus and Lucius Florus, the Roman historians, and Martial, of Spain, the epigrammatic poet, flourished.

117 Pliny, the younger, published his historical letters; Suetonius, his Roman history; and Plutarch, the Grecian biographer, his lives.

121 The Caledonians recovered from the Romans all the southern parts of Scotland; upon which the emperor Adrian built a wall between Newcastle and Carlisle. But this also proving ineffectual, Pollius Urbicus, the Roman general, about the year 144, repaired Agricola's fort, which he joined by a wall four yards thick.

128 Juvenal wrote his satires, and Justin, his universal history, some time after.

180 Lucian, the ingenious Roman philologer, published his dialogues.

193 Galen, the Greek philosopher and physician, flourished.

273 Longinus, the Greek orator, and author of the celebrated treatise on the *sublime*, was put to death by Aurelian.

274 Silk was first brought from India. The manufacture of it was first introduced into Europe by some monks, in 551; and it was first worn by the clergy in England, in 1534.

306 Constantine the Great began his reign.

320 Arius, a priest of Alexandria, founded the sect of the Arians.

A. D.

325 The first general council was held at Nice, when 318 fathers attended, against Arius, when the *famous Nicene Creed* was composed.

328 Constantine removed the seat of empire from Rome to Byzantium; thence called Constantinople. Not long after he ordered all the *heathen temples* to be destroyed.

342 Eusebius, the ecclesiastical historian and chronologer, flourished.

363 The Roman emperor Julian, surnamed the Apostate, endeavoured in vain to rebuild the temple of Jerusalem.

364 The Roman empire was divided into the eastern, of which Constantinople was the capital, and the western, of which Rome continued to be the capital, each being under the government of different emperors.

400 Bells were invented by Paulinus, of Campagnia.

CHAP. XVIII.

MEMORABLE EVENTS FROM THE BEGINNING OF THE FIFTH TO THE END OF THE TENTH CENTURY.

404 THE kingdom of Caledonia, or Scotland, revived under Fergus.

406 The Vandals, Alans, and Suevi, spread into France and Spain, by a concession of Honorius, emperor of the West.

426 The Romans, reduced to extremities at home, withdrew their troops from Britain, and never returned. Before their departure, they advised

A. D.
the Britons to arm in their own defence, and trust to their own valour.
428 Eutropius published his abridgement of the Roman history.
476 The western empire was finished; and out of its ruins several new states arose in Italy and other parts, consisting of Goths, Vandals, Huns, and other barbarians, under whom literature was extinguished, and the works of the learned were destroyed.
513 Constantinople was besieged by Vitalianus, whose *fleet* was burnt by a *speculum* of brass.
518 Latin ceased to be spoken in Italy.
622 Mahomet, a false prophet, fled from Mecca to Medina, in Arabia, in the 44th year of his age, and 10th of his ministry, when he laid the foundation of the Saracen empire, and from whom the Mahometan princes to this day claim their descent. His followers compute their time from this æra, which in Arabic is called *Hegira*, that is, the *Flight*.
653 Jerusalem was taken by the Saracens, or followers of Mahomet.
664 Glass was invented in England by Benalt, a monk.
685 The Britons, after a brave struggle of near 150 years, were totally expelled by the Saxons, and driven into Wales and Cornwall.
735 Bede, a priest of Northumberland, published the history of the Saxons and Scots. Being almost the only learned man of his time, he was honoured with the title of the *venerable Bede*.
800 Charlemagne, king of France, began the empire

A. D.

of Germany, afterwards called the western empire. He gave the present names to the winds and months, and endeavoured to restore learning in Europe; but mankind were not yet disposed for it, being solely engrossed in military enterprizes.

838 The Scots and Picts had a decisive battle, in which the former prevailed, and both kingdoms were united by Kennet, which began the second period of the Scottish history.

896 Alfred the Great, after subduing the Danish invaders, against whom he fought 56 battles by sea and land, composed his body of laws, divided England into counties and hundreds, erected county-courts, and founded the university of *Oxford*.

901 King Alfred published his history, his philosophy, and his poetry.

915 The university of Cambridge was founded.

979 Coronation oaths are said to have been first used in England.

991 The figures in Arithmetic were brought into Europe by the Saracens from Arabia. Letters of the alphabet were formerly used.

1000 Paper made of cotton rags was in use; that of linen rags in 1170. The manufacture of it was introduced into England at Dartford, in 1588.

CHAP. XIX.

REMARKABLE EVENTS OF THE ELEVENTH, TWELFTH, AND THIRTEENTH CENTURIES.

A. D.

1015 CHILDREN were forbidden, by law, to be sold by their parents, in England.

1017 Canute, king of Denmark, got possession of England.

1066 The battle of Hastings was fought between Harold, and William, duke of Normandy, in which Harold was conquered and slain; after which William became king of England.

1070 William introduced the feudal laws into England.

1071 Musical notes were invented.

1076 Justices of the peace were first appointed in England.

1080 The *Tower* of London was built by William, to curb his English subjects, numbers of whom *fled* to Scotland, where they introduced the Saxon or English language, were *protected* by *Malcolm*, and had lands given them.

1096 The first crusade to the Holy Land began, under several Christian princes, to drive the infidels from Jerusalem.

1118 The order of the Knights Templars was instituted, to defend the sepulchres at Jerusalem, and to protect Christian strangers.

1163 London-bridge, consisting of 19 small arches, was first built of stone.

1172 Henry II. king of England, and first of the Plantagenets, took possession of Ireland; which from that period has been governed by an English *viceroy*, or *lord-lieutenant*.

A. D.

1180 Glass windows began to be used in private houses in England.

1192 The battle of Ascalon was fought, in Judea, in which Richard, king of England, defeated Saladine's army, consisting of 300,000 combatants.

1194 *Dieu et mon Droit* was first used as a motto by Richard, on a victory over the French.

1200 Chimnies were not known in England.

1202 *Surnames* began to be used. The *nobility* were the first who assumed them.

1208 London was incorporated, when the inhabitants obtained their first charter for electing their lord mayor, and other magistrates, from king John.

1215 *Magna Charta* was signed by king John and the barons of England. In the same year, the *Court of Common Pleas* was established.

1227 The Tartars, a new race of heroes, under Gingis Khan, emerged from the northern parts of Asia, over-ran all the Saracen empire; and, in imitation of former conquerors, carried death and desolation wherever they marched.

1233 The inquisition, begun in 1204, was trusted to the Dominicans.

1234 The *houses* of *London*, and other cities in England, France, and Germany, were still *thatched* with straw.

1259 Matthew Paris, a monk of St. Alban's, published his history of England.

1264 According to some writers, the commons of England were summoned to parliament for the first time.

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1273 The empire of the present Austrian family began in Germany.

1282 Lewellyn, prince of Wales, was defeated and killed by Edward I. who *united that principality* to England.

1284 Edward II. born at Carnarvon, was the first prince of Wales.

1292 Roger Bacon, of Somersetshire, the natural philosopher, flourished.

1298 Knives with silver handles, silver spoons, and cups, were a great luxury.

1299 Tallow candles were so great a luxury, that splinters of wood were used for lights.

1300 Wine was sold by the apothecaries as a cordial.

CHAP XX.

SINGULAR OCCURRENCES OF THE FOURTEENTH AND FIFTEENTH CENTURIES.

1302 THE mariner's compass was invented, or improved, by Givia, of Naples.

1307 The Swiss cantons began.

1308 John Fordun, a priest of Merns shire, published the history of Scotland.

1310 Lincoln's Inn society was established.

1314 The battle of Bannockburn between Edward II. and Robert Bruce was fought, which established the latter on the throne of Scotland.

1320 Gold was first coined in Christendom. It was coined in England about the year 1344.

1340 Gunpowder and guns were first invented by Swartz, a monk of Cologn. In 1346, Edward III. had four pieces of cannon, which

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contributed to gain him the battle of Cressy. The same year bombs and mortars were invented.

1341 Oil painting was first made use of by John Vaneck.

1342 Herald's-college was instituted in England.

1344 The first creation to titles by patent was used by Edward III.

1349 The order of the Garter was instituted in England by Edward III. and altered in 1557. It consists of 26 knights.

1357 Coals were first brought into use in England.

1362 The law pleadings in England were changed from French to English, as a favor of Edward III. to his people.

1363 John Wickliffe, an Englishman, began to oppose the errors of the church of Rome, with great acuteness and spirit His followers were called Lollards.

1385 A company of linen-weavers, from the Netherlands, was established in London.

1386 Windsor castle was built by Edward III.

1391 Cards were invented in France, for the king's amusement.

1399 Westminster-abbey and Westminster-hall, were rebuilt and enlarged.

In the same year the order of the Bath was instituted, at the coronation of Henry IV. and renewed in 1725. It consists of 38 knights.

1400 Died the famous Geoffry Chaucer, of London, the father of English poetry.

1411 The university of St. Andrew's, in Scotland, was founded.

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1415 The battle of Agincourt was gained over the French, by Henry V. of England.

1428 Laurantius, of Harleim, invented the *art of printing*, which he practised with separate *wooden* types. Guttenburgh afterwards invented *cut metal* types. But the art was carried to perfection by *Peter Schoeffer*, who invented the mode of *casting* the types in *matrices*. *Frederic Corsellis* began to print at Oxford, in 1468, with *wooden types*; but it was *William Caxton* who introduced into England the art of printing with fusil types, in 1474.

1446 The sea broke in at Dort, in Holland, and drowned 100,000 people.

1453 Constantinople was taken by the Turks, which put an end to the *eastern empire*, 1123 years from its dedication by *Constantine* the *Great*, and 2206 years from the foundation of Rome.

1454 The university of Glasgow, in Scotland, was founded.

1460 Engraving and etching in copper was invented.

1477 The university of Aberdeen, in Scotland, was founded.

1483 Richard III. king of England, and last of the Plantagenets, was defeated and killed at the battle of Bosworth, by Henry (Tudor) VII. which put an end to the civil wars between the *houses* of *York* and *Lancaster*, after a contest of 30 years, and the loss of 100,000 men.

1486 Henry established fifty yeomen of the guards, the first standing army.

1491 The Moors, hitherto a formidable enemy to the native Spaniards, were entirely subdued by

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Ferdinand, and became subjects to that prince on certain conditions, which were ill observed by the Spaniards, whose clergy employed the powers of the inquisition, with all its tortures; and, in 1609, near one million of the Moors were driven from Spain to the opposite coast of Africa, from whence they originally came.

1492 America was first discovered by Columbus, a Genoese, in the service of Spain.

1494 Algebra was first known in Europe.

1497 South America was discovered by Americus Vespusius, from whom it has its name.

1499 North America was discovered by Cabot, for Henry VII.

CHAP. XXI.

MEMORABLE EVENTS OF THE SIXTEENTH CENTURY.

1505 SHILLINGS were first coined in England.

Gardening was first introduced into England from the *Netherlands*, from whence *vegetables* had been hitherto imported

1513 The battle of Flowden was fought, in which James IV. of Scotland, was killed, with the flower of his nobility.

1517 Martin Luther began the reformation.

1520 Henry VIII. for his writings in favor of popery, received the title of Defender of the Faith from the Pope.

1529 The name of *Protestant* took its rise from the *Reformed protesting against the church of Rome*, at the diet of Spires, in Germany.

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1534 The reformation took place in England under Henry VIII.

1535 Died, sir Thomas More, of London, lord chancellor, who published history, politics, and divinity.

1537 Monasteries and convents were dissolved by Henry VIII.

1539 The first English translation of the Bible was authorized. The *present* translation was finished in 1611.

1540 Cannon began to be used in ships.

1543 Silk stockings first worn by the French king. They were first used in England by queen Elizabeth, in the year 1651. The steel frame for weaving was invented by the Rev. Mr. Lee, of St. John's-college, Cambridge, in 1589.

This year, likewise, *pins* were first used in England; for before the invention of pins, the ladies used skewers.

1544 Good lands were let in England at one shilling per acre.

1545 The famous council of Trent began, and continued 18 years.

1552 Died, John Leland, of London, author of lives and antiquities.

1558 Queen Elizabeth began her reign.

1560 The reformation in Scotland was completed by John Knox.

1563 Knives were first made in England.

1568 Died, Roger Ascham, of Yorkshire, author of philology, and polite literature.

1569 The Royal Exchange was first built.

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1572 There was a great massacre of Protestants, or Huguenots, at Paris

During the same year, the Rev. John Knox, the Scotch reformer, died. He wrote a history of the church of Scotland.

1579 The Dutch shook off the Spanish yoke, and the republic of Holland began.

The English East India company was incorporated. It was established in 1600.

1580 Sir Francis Drake returned from his voyage round the world, being the first English circumnavigator.

Parochial registers were first appointed in England.

1582 Died George Buchanan, of Dumbartonshire, the celebrated author of the history of Scotland, the psalms of David, and other poetical, as well as political, productions.

Pope Gregory introduced the New Style into Italy; the 5th of October being reckoned the 15th.

1583 Tobacco was first brought from Virginia into England.

1587 Mary, queen of Scots, beheaded by order of Elizabeth, after 18 years imprisonment.

1588 The Spanish armada destroyed by Drake, and other English admirals.

Henry IV. passed the edict of Nantz, tolerating the Protestants.

1589 Coaches were first introduced into England. The hackney act took place in 1693. The number of hackney coaches was increased to 1000, in 1770.

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1591 Trinity-college, Dublin, was founded.

1597 *Watches* were first brought into England from *Germany*.

1598 Died, Edmund Spenser, of London, author of the Fairy Queen, and other poems.

CHAP. XXII.

REMARKABLE EVENTS OF THE SEVENTEENTH CENTURY.

1602 DECIMAL Arithmetic was invented at Bruges.

1603 Queen Elizabeth, the *last* of the Tudors, died, and nominated James VI. of Scotland, the *first* of the Stuarts, as her successor; which *united* both kingdoms under the *name* of *Great Britain*.

1605 The Gunpowder-plot was discovered at Westminster; being a project of the Roman catholics to blow up the king and both houses of parliament.

1608 Galileo, of Florence, first discovered the Satellites about the planet Saturn, by the *telescope*, then just *invented* in Holland

1610 Henry IV. was murdered at Paris by Ravilliac, a priest.

1613 Napier, of Marcheston, in Scotland, invented the logarithms.

1614 Sir Hugh Middleton brought the New River to London from Ware.

1616 Died, William Shakespeare, of Stratford, who wrote 42 tragedies and comedies.

1619 Dr. William Harvey, an Englishman, discovered the doctrine of the circulation of the blood.

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1623 Died, William Camden, of London, author of history and antiquities.

1625 King James died, and was succeeded by his son, Charles I.

1628 Died, lord chancellor Bacon, of London, who wrote on natural philosophy and literature in general.

1634 Died, lord chief justice Coke, of Norfolk, author of institutes of the *Laws* of *England.*

1636 Regular posts were established from London to Scotland, Ireland, &c.

1638 Died, Ben Jonson, of London, the author of 53 dramatic pieces.

1640 The massacre in Ireland happened, when 40,000 English Protestants were killed.

1642 King Charles, in the house of commons, impeached five members who had opposed his arbitrary measures; which began the civil war in England.

1643 The excise on beer and ale, &c. was first imposed by parliament.

1646 Episcopacy was suppressed in England.

1649 Charles I. was beheaded at Whitehall, January 30, aged 49.

1654 Cromwell assumed the protectorship.

1658 Cromwell died, and was succeeded in the protectorship by his son Richard.

1660 King Charles II. was restored by Monk, commander of the army, after an exile of 12 years in France and Holland.

Episcopacy was restored in England and Scotland.

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1662 The Royal Society was established in London by Charles II.
1665 The plague raged in London, and carried off 68,000 persons.
1666 The great fire of London began on the 2d of September, and continued three days, in which were destroyed 13,000 houses, and 400 streets.
Tea was first used in England.
1667 Died, Abraham Cowley, of London, author of miscellaneous poetry.
1672 Halfpence and farthings were first coined in England.
Lewis XIV. over-ran great part of Holland, when the Dutch opened their sluices, being determined to *drown* their country, and retire to their *settlements* in the East Indies.
1674 Died, John Milton, of London, author of Paradise Lost, Regained, and various other pieces in verse and prose.
The same year died, Hyde, earl of Clarendon, a native of Wiltshire, who published a history of the Civil Wars in England.
1675 Died, James Gregory, of Aberdeen, who wrote on mathematics, geometry, and optics.
1677 Died, the Rev. Dr. Isaac Barrow, of London, a celebrated divine, natural philosopher, and mathematician.
1680 A great comet appeared, and from its nearness to our earth alarmed the inhabitants. It continued visible from November the 3d to March the 9th.
William Penn, a quaker, received a charter for planting Pennsylvania.

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The same year died, Samuel Butler, of Worcestershire, author of Hudibras, a burlesque poem.

1685 Died, Charles II. aged 55, and was succeeded by his brother James II.

The duke of Monmouth, natural son to Charles II. raised a rebellion in the north of England, but was defeated at the battle of Sedgemoor, and beheaded.

Thomas Otway, of London, died this year. He was the author of ten tragedies and comedies, and other poems.

1687 Died, Edmund Waller, of Buckinghamshire, author of poems, speeches, and letters.

1688 The revolution in Great Britain began on the 4th of November. King James abdicated, and retired to France, in the month of December.

1689 King William and queen Mary, daughter and son-in-law to James, were proclaimed on the 16th of February.

The land-tax act first passed in the parliament of England; as also the toleration-act.

Dr. Thomas Sydenham, of Dorsetshire, author of the history of Physic, died this year.

1690 Died, Nathaniel Lee, of London, author of 11 tragedies; as also Robert Barclay, of Aberdeenshire, author of the Apology for the Quakers.

1691 Died, the hon. Robert Boyle, who wrote on natural and experimental philosophy, as well as theology; as also sir George Mackenzie,

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of Dundee, who published the antiquities and laws of Scotland.

1693 Bayonets at the end of loaded musquets were first used by the French against the confederates, at the battle of Turin.

The duchy of Hanover was made the ninth electorate.

The bank of England was established by king William.

The first public lottery was drawn this year.

1694 Died, John Tillotson, archbishop of Canterbury, a native of Halifax, and author of 254 sermons.

1697 Sir William Temple, of London, died. He wrote on politics, and polite literature.

1699 The Scots settled a colony at the isthmus of Darien, in America, and called it Caledonia.

1700 Charles XII. of Sweden, began his reign.

CHAP. XXIII.

MEMORABLE EVENTS OF THE EIGHTEENTH CENTURY.

1701 THE society for the propagation of the gospel in foreign parts was erected.

John Dryden, of Northamptonshire, died this year. He was the author of 27 tragedies and comedies, a translation of Virgil, and satiric poems.

1702 King William died, aged 50, and was succeeded by queen Anne, daughter to James II. who, with the Emperor and States General, renewed the war against France and Spain with unexampled success.

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1704 Gibraltar was taken from the Spaniards, by admiral Rooke.

The battle of Blenheim was won by the duke of Marlborough and the allies, against the French.

The court of Exchequer instituted in England.

John Locke, of Somersetshire, died this year. He wrote on government, education, moral philosophy, and divinity.

1705 Died, John Ray, of Essex, who wrote on botany, natural philosophy, and theology.

1706 The treaty of union betwixt England and Scotland, was signed on the 22d of July.

1707 The first *British* parliament was assembled.

George Farquhar, of Londonderry, author of eight comedies, died this year.

1708 Sardinia was erected into a kingdom, and given to the duke of Savoy.

1709 Peter the Great, czar of Muscovy, defeated Charles XII. at Pultowa, who fled to Turkey.

1710 The cathedral church of St. Paul, London, was rebuilt by sir Christopher Wren, in 37 years, at the expence of *one million* of pounds, raised by a duty on coals.

1713 The peace of Utrecht was concluded, whereby Newfoundland, Nova Scotia, New Britain, and Hudson's Bay, in North America, were yielded to Great Britain. Gibraltar and Minorca, in Europe, were also confirmed to the said crown by this treaty.

1714 Queen Anne died at the age of 50, and was succeeded by the elector of Hanover, George I.

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Gilbert Burnet, a native of Scotland, bishop of Salisbury, died the same year. He wrote the history of his own times, and of the reformation, an exposition of the thirty-nine articles of the church of England, and sermons.

Interest was reduced to five per cent.

1715 The rebellion in Scotland began in September, under the earl of Mar, in favour of the Pretender. The action of Sheriff-muir, and the surrender of Preston, both happened in Nober, when the rebels dispersed.

Lewis XIV. died, and was succeeded by his great grandson, Lewis XV.

An act passed for prolonging the duration of parliaments to seven years.

1718 Died, Nicholas Rowe, of Devonshire, author of seven tragedies, and a translation of Lucan's Pharsalia.

The Northern Lights, or Aurora Borealis, first appeared this year.

1719 Lombe's silk-throwing machine, containing 26,586 wheels, was erected at Derby. It took up one-eighth of a mile. One water-wheel moved the rest; and in 24 hours, it produced 318 millions, 504 thousand, 960 yards of silk thread.

The South-Sea scheme in England began on the 7th of April, was at its height at the end of June, and quite sunk about the end of September.

Joseph Addison, of Wiltshire, the elegant author of the Spectator, Guardian, poems, and political pieces, died this year.

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About the same time died, the Rev. John Flamstead, of Devonshire, and Dr. John Keill, of Edinburgh, both celebrated for their skill in astronomy and mathematics.

1721 Died, Matthew Prior, of London, who wrote poems, and political pieces.

1724 William Wollaston, of Staffordshire, died. He was the author of the Religion of Nature delineated, a very valuable work.

1727 King George I. died, in the 68th year of his age, and was succeeded by his only son George II.

The immortal sir Isaac Newton, of Lincolnshire, died the same year. His philosophical discoveries are well known to the learned.

Inoculation was first tried on criminals with success.

Russia, formerly a dukedom, was now established as an empire.

1729 Died, the Rev. Dr. Samuel Clarke, of Norwich, a celebrated divine, and mathematician.

Sir Richard Steele, of Dublin, and William Congreve, of Staffordshire, died about the same time. The former wrote four comedies, many papers in the Tatler and Spectator, Ladies Library, and several other works. The latter was the author of the Mourning Bride, and seven other dramatic pieces.

1732 Kouli Khan usurped the Persian throne, conquered the Mogul empire, and returned with 231 millions sterling

The same year died, John Gay, of Exeter, author of poems, fables, and 11 dramatic pieces.

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1734 Died, John Arbuthnot, of Merns-shire, who wrote on medicine, coins, and politics.

1736 Captain Porteus, having ordered his soldiers to fire upon the populace at the execution of a smuggler, was himself hanged by the mob at Edinburgh.

1738 Westminster-bridge, consisting of 15 arches, was begun. It was finished in 1750, at the expence of 389,000l. defrayed by parliament.

1742 Died, Dr. Edmund Halley, who wrote on natural philosophy, astronomy, and navigation.

Dr. Richard Bentley, of Yorkshire, whose publications on classical learning and criticism are well known, died the same year.

1744 Commodore Anson returned from his voyage round the world.

Alexander Pope, of London, author of many elegant poetical pieces, letters, and a translation of Homer, died this year.

1745 The rebellion broke out in Scotland, and the Pretender's army was defeated by the duke of Cumberland, at Culloden, April 16, 1746.

The Rev. Dr. Jonathan Swift, of Dublin, died this year. He was the author of poems, political pieces, letters, and sermons.

1746 Died, Colin Maclaurin, of Argyleshire, author of a treatise on Algebra, and a view of Newton's Philosophy.

1748 The peace of Aix-la-Chapelle was concluded, by which a restitution of all places taken during the war, was to be made on all sides.

James Thomson, of Roxburghshire, author of the Seasons, five tragedies, and other poems, died

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this year; as did also the Rev. Isaac Watts, of Southampton, author of logic, philosophy, psalms, hymns, and sermons; and Dr. Francis Hutcheson, of Airshire, who wrote a system of moral philosophy.

1749 The interest of the British funds was reduced to three per cent.

1750 The Rev. Dr. Conyers Middleton, of Yorkshire, author of the life of Cicero, died; as did also Andrew Baxter, of Old Aberdeen, who wrote on metaphysics and natural philosophy.

CHAP. XXIV.

MEMORABLE EVENTS OF THE EIGHTEENTH CENTURY CONTINUED.

1751 FREDERIC, prince of Wales, father to his present Majesty, died.

1752 The new style was introduced into Great Britain; the third of September being counted the 14th.

1753 The British Museum was erected at Montague-house.

1754 Died, Dr. Richard Mead, of London, who wrote on poisons, the plague, medicine, and precepts.

Henry Fielding, of Somersetshire, author of Tom Jones and Joseph Andrews, died the same year.

1755 Lisbon was destroyed by an earthquake.

1756 One hundred and forty-six Englishmen were confined in the Black-hole at Calcutta, in the

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the East Indies, by order of the Nabob, and 123 were found dead next morning.

1757 Damiens attempted to assassinate the French king.

Colley Cibber, of London, died, who wrote 25 tragedies and comedies.

1759 General Wolfe was killed at the battle of Quebec, in the moment of victory.

1760 King George II. died, on the 25th day of October, in the 77th year of his age, and was succeeded by his present Majesty, who, on the 22d of September, 1761, married the princess Charlotte, of Mecklenburgh Strelitz.

Blackfriar's-bridge, consisting of nine arches, was begun. It was finished in 1770, at the expence of 152,840l. to be discharged by a toll.

1761 Died, Thomas Sherlock, bishop of London, author of 69 sermons; and Benjamin Hoadley, bishop of Winchester, who published sermons and controversial writings.

About the same time, Samuel Richardson, of London, author of Grandison, Clarissa, and Pamela, died; as also the Rev. Dr. John Leland, of Lancashire, who wrote an answer to the Deistical Writers.

1762 Peter III. emperor of Russia, was deposed, imprisoned, and murdered.

George Augustus Frederic, prince of Wales, was born on the 12th of August.

1764 The parliament granted 10,000l. to Mr. Harrison, for his discovery of the longitude by his time-piece.

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Hogarth, the celebrated painter, author of the Analysis of Beauty, died this year.

1765 An act passed for annexing the sovereignty of the island of Man to the crown of Great Britain.

The Rev. Dr. Edward Young, author of the Night Thoughts, three tragedies, and other poems, died this year; as did also Robert Simson, of Glasgow, author of conic sections, and a translation of Euclid and Apollonius.

1766 On the 21st of April, a spot or macula of the sun, more than thrice the bigness of our earth, passed the sun's centre.

1768 The academy of Painting was established in London.

The same year died, the Rev. Lawrence Sterne, author of the Sentimental Journey, Tristram Shandy, and 45 sermons.

1770 Died, the Rev. Dr. Jortin, author of the Life of Erasmus, Ecclesiastical History, and sermons; as also Dr. Mark Akenside, of Newcastle-upon-Tyne, author of poems.

Dr. Tobias Smollett, of Dumbartonshire, who wrote a history of England, novels, aud translations, died the same year.

1771 Dr. Solander and Mr. Banks, in his Majesty's ship the Endeavour, lieutenant Cook, returned from a voyage round the world, having made several important discoveries in the South Seas.

Thomas Gray, professor of modern history, Cambridge, author of the beautiful *Elegy* in a *Country Church-yard*, and other poems, died this year.

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1772 The king of Sweden changed the constitution of that kingdom.

The Pretender married a princess of Germany, grand-daughter of Thomas, late earl of Aylesbury.

The emperor of Germany, the empress of Russia, and the king of Prussia, stripped the king of Poland of great part of his dominions, which they divided among themselves, in violation of the most solemn treaties.

1773 Captain Phipps, (afterwards lord Mulgrave) was sent to explore the North Pole; but having made 81 degrees, was in danger of being locked up by the ice, and his attempt to discover a passage in that quarter proved fruitless.

Died Philip Dormer Stanhope, earl of Chesterfield, whose celebrated letters to his son, were afterwards printed; as also George lord Lyttelton, of Worcestershire, who wrote a *History of Henry II.*

The Jesuits were expelled from the pope's dominions, and suppressed by his bull, on the 25th of August.

1774 The British parliament having passed an act, laying a duty of three-pence per pound upon all teas imported into America, the colonists, considering this as a grievance, denied the right of the British parliament to tax them.

Oliver Goldsmith, who wrote poems, essays, and several histories, died this year; as also Zachary Pearce, bishop of Rochester, author of Annotations on the New Testament.

1775 The first action happened in America between

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the king's troops and the provincials at Lexington, on the 19th of April. On the 17th of June, there was a bloody action.

Dr. John Hawkesworth died this year. He was the author of the Adventurer, a periodical publication of great merit, and wrote an account of Cooke's voyages, from the captain's papers.

1776 The congress declared the American colonies free and independent states.

David Hume, author of the history of England, and essays, died this year; as also James Ferguson, of Aberdeenshire, the famous astronomer.

1777 Lieutenant general Burgoyne was obliged to surrender his army at Saragota, in Canada, by convention, to the American army, under the command of the generals Gates and Arnold.

Samuel Foote, of Cornwall, the celebrated wit and comedian, died this year. He wrote some humourous dramatic pieces.

1778 A treaty of alliance was concluded at Paris, between the French king and the thirteen united American colonies, in which their independence was acknowledged by the court of France.

1778 An engagement was fought off Brest between the English fleet, under the command of admiral Keppel, and the French fleet, under the command of the count d'Orvilliers, on the 27th of July.

1779 Died, David Garrick, of Hereford, one of the first actors that ever appeared on any stage, whence he was surnamed the English Ros-

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cius. He wrote several dramatic and poetical pieces.

The same year died, William Warburton, bishop of Gloucester, author of the Divine Legation of Moses, and various other works.

CHAP. XXV.

MEMORABLE EVENTS OF THE EIGHTEENTH CENTURY, CONCLUDED.

IN the year 1780, the *Protestant Association*, to the number of 50,000, went up to the house of commons, on the 9th of June, with their petition for the repeal of an act passed in favour of the papists.

That event was followed by the most daring riots in the city of London and Southwark, for several successive days, in which some popish chapels were destroyed, together with the prisons of Newgate, the King's-bench, the Fleet, several private houses, &c. These alarming riots were at length suppressed by the interposition of the military, and many of the rioters were tried and executed for felony.

Sir William Blackstone, judge of the court of Common Pleas, London, died this year. He wrote Commentaries on the Laws of England.

In 1782, the credit of the British arms was well sustained at Gibraltar, under general Elliot, the governor; and their formidable attack on the 13th of September, with floating batteries of 212 brass cannon, and red-hot bullets, ended in the destruction of the Spanish ships, and a great number of their men. The garrison was relieved by lord Howe, in the month of October, who offered battle to the combined force of

France and Spain, though twelve sail of the line inferior.

In 1783, the definitive treaty of peace was ratified between Great Britain, France, Spain, and the United States of America.

Lord Shelburne, and his colleagues, the peace-makers, were obliged to withdraw from power; for a majority of the commons enlisted under the banners of the *famous coalition leaders*, Mr. Fox and lord North, who were made secretaries of state, and the duke of Portland, first lord of the treasury, on the 2d day of April.

On the 19th of December, between 12 and one in the morning, a royal messenger was sent to the two secretaries just mentioned, desiring them to send the seals of their office immediately; and Mr. Pitt succeeded the duke of Portland as first lord of the treasury, bringing his friends into the respective departments, which formed the tenth administration since his majesty's accession.

A bill brought into parliament by Mr. Fox, for new regulating the government of the East India company, and the commercial affairs and territories, which was thought to be unconstitutional, occasioned the dismission and political death of the *coalition ministry*.

In 1784, on the 26th of May, the memory of Handel was commemorated by a grand jubilee at Westminster-abbey.

On the 15th of September, Mr. Lunardi ascended in a balloon from the Artillery-ground, Moorfields, being the first attempt of that kind made in England.

Dr. Samuel Johnson, of Litchfield, author of the English Dictionary, Rambler, Idler, Lives of the Eng-

lish Poets, Rasselas, and several poetical pieces, died on the 13th of December, aged 71.

In 1785, died, William Whitehead, poet-laureat, who wrote poems and plays.

In 1786, on the 26th of September, a commercial treaty was signed between England and France.

In 1787, died, the learned Dr. Lowth, bishop of London, author of an English Grammar, a translation of Isaiah, and some poetical pieces.

In 1778, in the early part of October, the first symptoms appeared of a severe disorder, which afflicted our gracious sovereign. On the 6th of November, they were very alarming; and on the 13th, a form of prayer for his recovery, was ordered by the privy council.

In 1789, on the 17th of February, his majesty was pronounced to be in a state of convalescence; and, on the 26th, to be free from complaint. On the 23d of April, there was a general thanksgiving for the king's recovery, who attended the service at St. Paul's, with a great procession.

A revolution happened in France this year: the Bastile was demolished, the government new-modelled, and the power of the king very much abridged.

In 1790, there was a grand confederation in the field of Mars, when Louis XVI. took a solemn oath to abide by the new constitution, as prescribed by a decree of the national assembly. However, notwithstanding the solemn oath the French monarch had taken, he soon afterwards endeavoured to make his escape to the German dominions; but he was stopped on the borders of Flanders, brought back to Paris, and closely guarded in one of the royal palaces.

In 1791, there were dreadful riots in Birmingham, on occasion of commemorating the French revolution, when several houses were destroyed. Dr. Priestly's grand philosophical apparatus, his extensive and valuable library, together with his manuscripts and furniture, were all committed to the flames. Some time after, the doctor, with several of his friends, went over to America.

In 1792, lord Cornwallis made an advantageous peace with Tippoo Saib, in the East Indies, and received the two sons of the tyrant as hostages. A great law question was also determined by the house of lords (contrary to the opinion of the judges) that in cases of libels, juries are judges of the *law*, as well as of the fact.

On the 10th of August, there was a dreadful engagement at the Thuilleries, in Paris; the Swiss guards were vanquished and massacred, whilst the king and royal family were compelled to take refuge in the national assembly. His majesty was deposed, and, with his family, imprisoned.

On the 22d of September, a dreadful insurrection happened at Paris. The prisons were forced open, and all the state prisoners, as well as confined priests, were massacred.

In 1793, on the 21st of January, the king of France was beheaded; and the queen shared the same fate on the 10th of October. The duke of Orleans, alias M. Egalité, and the famous countess de Barré, were also executed at Paris.

During the year 1793 likewise, a number of persons met at Edinburgh, and held a convention, similar to that in France; several of these persons, men of re-

spectable situations in life, were afterwards transported to Botany-bay.

The year 1794 was remarkable for a celebrated naval engagement; lord Howe having, on the 1st of June, obtained a complete victory over the French fleet.

In 1795, on the 8th of April, his royal highness the prince of Wales was married to the princess Caroline of Brunswick, his cousin.

On the 23d of the same month, the impeachment of Warren Hastings, esq. was finally determined in Westminster-hall, when the lord chancellor informed him, that he was acquitted of the charges preferred against him by the house of commons, and that he was then discharged upon paying his fees. This memorable trial commenced on the 12th of February, 1788; but such were the delays, by long adjournments, that the court in all this time, had sat only 149 days.

In 1796, during the month of August, the Dutch fleet, consisting of three sail of the line and five frigates, having entered Saldana-bay, with a view to attack the Cape of Good Hope, were all captured by lord Keith.

In 1797, sir John Jervis, afterwards earl St. Vincent, with 15 sail of the line, entirely defeated the Spanish fleet, consisting of 27 sail of the line. In this engagement, which took place near Cape St. Vincent, four ships were captured, namely, two of 112 guns, one of 84, and one of 74.

On the 11th of October, near Camperdown, the British fleet, under the command of admiral Duncan, afterwards created lord viscount Duncan, obtained a glorious victory over the Dutch fleet, commanded by admiral De Winter. In this engagement, above 700 men were killed and wounded in the British fleet; the

loss to the vanquished was much more considerable, they having 540 killed, and 620 wounded. Nine sail of the line and two frigates were captured by the English. Nothing could exceed the national rejoicing on account of this victory. In December, a day of solemn thanksgiving was appointed for the three great naval victories, by lord Howe, and admirals Jervis and Duncan. On that day, their majesties went in procession to St. Paul's cathedral, accompanied by the members of both houses of parliament.

1798, on the 1st of August, near the mouth of the Nile, admiral Nelson, afterwards created baron Nelson, entirely defeated and captured the French fleet, consisting of 14 ships of the line, and four frigates.

On the 21st of November, died at Bath, aged 81, William Master, esq. In the early part of his life, he was a colonel in the army; and 50 years ago, in Flanders, was shot through the lungs, the effect of which *wound cured him of an asthma;* insomuch that the (military) duke of Cumberland, under whom he served, used to say jocosely to his officers, when any of them laboured under an internal complaint, "You must get shot through the lungs like Master." He, however, retired from the service soon after this accident, though it does not appear to have shortened his life.

In 1799, during the month of September, 14,000 British troops, and 16,000 Russians, landed at the Helder, in order to subdue the Dutch revolutionists. They were unsuccessful.

About the same time died, Mr. Flower, master of an academy near Bath, who, having a natural love and taste for the sciences, became, by his own *industry and attention,* a complete adept in astronomy, natural phi-

losophy, geography, and the mathematics. His partiality for astronomy induced him to wade through an accurate calculation of the mechanical parts of an orrery; the complicated movements of which he actually cut out in pasteboard, and from which (with the assistance of Mr. Springer, of Bristol,) he completed one of the largest and best instruments in the kingdom.

Not long after died, Mr. Arnold, of Cornhill, inventor of the expansion balance, and the first that ever applied the gold cylindrical spring to the balance of a time-piece. He retired from business about three years before his death; but his active mind, still labouring for the completion of his favourite object, and for what he called the ultimatum of time-piece making, produced a *chronometer* of a superior kind.

On the 8th of November, intelligence was received at the Admiralty, of the total loss of La Lutine, of 32 guns, on the outward bank of the Fly island passage, on the night of the 9th of October. All on board unfortunately perished, except two men. La Lutine had several passengers, and 600,000l. in specie on board.

On the 4th of December, six waggons, loaded with part of the treasure taken in two Spanish frigates, reached the bank from Plymouth. At nine o'clock the waggons arrived at Kensington, where they were met by a captain's guard of the grenadier battalion of the guards, and the procession moved along Piccadilly, St. James's-street, Pall-mall, the Strand, Fleet-street, and Cheapside. When the cavalcade reached the Mansion-house, the lord mayor, the lady mayoress, capt. Young, &c. came in front of the house, and drank out of a golden cup, "*Success to the British navy*," the band playing Rule Britannia, while the honest tars, who were

were regaled at the same time, gave his lordship three cheers.

In 1800, about the middle of March, the Queen Charlotte, of 110 guns, lord Keith's flag-ship, was lost off Leghorn. The fire of a match, which was kept lighted for the purpose of firing signal guns, communicated to some hay which lay on the half-deck. The fire spread very rapidly, and bursting through the port-holes and the hatchway of the ship, soon caught the shrouds; and, notwithstanding every exertion, she burnt to the water's edge, and then blew up. Upwards of 700 lives were lost. His lordship was on shore at Leghorn.

On the 15th of April, an insane person, whose name was Hadfield, discharged a pistol at the king in Drury-lane theatre. The slugs, with which the pistol was loaded, were found in different places, but all very near the *royal box*. On his trial, after the examination of several witnesses, lord Kenyon interrupted the proceedings, and asked the attorney-general and the counsel, if, after what they had heard, they thought fit to carry the enquiry farther? The attorney-general replied, "Certainly not, if his lordship thought the evidence conclusive." "I think," said lord Kenyon, "there can be no doubt of his insanity; and if the man was out of his senses at the time, by the laws of England he cannot be found guilty. In his present state, however, he cannot be discharged. It alike concerns the king upon the throne, and the beggar at his gate. My brothers agree with me in thinking that he should be carried to his late place of confinement, till he can be farther disposed of." On the suggestion of Mr. Garrow, that for the sake of posterity having a

verdict handed down to them in the records, the jury should find a verdict of *not guilty*, from the impression that he laboured under the influence of mental derangement, at the time he committed the act; the jury, without leaving the box, returned the verdict accordingly. The prisoner was immediately sent back to Newgate.

Much about this time died, of an apoplexy, at the age of 70, the celebrated Marmontel, author of Belisarius, Moral Tales, and other literary performances. He was a member of the French academy. When, three years ago, he was nominated to the legislature, he went to the electoral assembly, and thanking his fellow-citizens for this mark of respect, said to them, "You behold, my friends, a body enfeebled by age, but *the heart of an honest man never grows old.*"

In 1801, on the 1st of January, the union of Great Britain and Ireland having commenced, the king held a privy council, which was attended by their royal highnesses the prince of Wales, the dukes of York, Clarence, and Kent, and the several members in town, all of whom took the new oaths. After which, upon a signal given, the park and tower guns were fired, the new standards were hoisted, and the bells of the several churches were rung.

On the 9th of February, Mr. Addington, speaker of the house of commons, was appointed prime minister, in the room of Mr. Pitt, who had sat at the helm for 18 years.

On the 20th an act passed for the relief of insolvent debtors.

About this time, the marquis Wellesley, with the concurrence of the East India company, established an

university at Calcutta. It will contain professors for the ancient languages, with the Persian, Hindoo, &c. and for every branch of science and literature.

On the 16th of March, the Invincible ship of war, of 74 guns, struck upon a sand bank near Yarmouth, and was lost. About 195 of the crew were saved; but 400, including the captain and the greater part of the officers, unfortunately perished.

On the 23d Paul I. emperor of Russia, died suddenly, not without suspicion of being poisoned. At dinner he seemed uncommonly jovial, and continued so all the afternoon. He retired to rest at half past nine at night, and rang his bell at half past ten, when the lord in waiting found him much agitated. He expired about eleven o'clock, and was succeeded by his son Alexander.

On the 28th died, in Egypt, the brave sir Ralph Abercrombie, commander in chief of the forces there, who had been mortally wounded in the action of the 21st. On that day a battle was fought near Alexandria, between the British and French armies. The enemy were twice repulsed, and their cavalry were repeatedly mixed with our infantry. They at length retired, leaving a prodigious number of dead and wounded on the field.

About the same time, the admirals Parker and Nelson entered the Baltic; and on the 2d of April, lord Nelson led the attack on the lines of Copenhagen, and after a tremendous fire, destroyed or took 18 ships.

On the 19th of June, the first stone of the royal military asylum was laid at Chelsea, in the presence of the duke of York.

On the 4th of August, an attack, conducted by lord

Nelson, was made on the gun-boats, &c. in the harbour of Boulogne, intended for an invasion of England.

On the 27th, the town and forts of Alexandria surrendered to general Hutchinson.

On the 10th of October, general Lauriston, first aid-de-camp to Bonaparte, arrived in London, with the ratification of the preliminaries of peace.

On the 23d, the king was pleased to appoint the marquis Cornwallis to be plenipotentiary at the congress to be held at Amiens, in France, about 75 miles north of Paris; and also to appoint Anthony Merry, esq. to execute the office of his majesty's secretary at the said congress.

On the 9th of November, the new lord mayor, sir John Eamer, with the usual attendants, proceeded from Guildhall to the Three Crane-stairs, where he took water for Westminster. After having been presented to the barons of the Exchequer, and having saluted the different courts, he returned to Blackfriars. He was received by the East and West London regiments of militia, and proceeded to Guildhall. To give additional grandeur to the procession, four suits of mail had been borrowed from the Tower, in one of which, (said to have been the identical armour of William the Conqueror,) a man rode on horseback, attended by three esquires on foot. The entertainment consisted of above 2000 dishes; and the hall was adapted to the accommodation of 4000 persons.

In the month of December, the Brest fleet of 20 ships, sailed for the West Indies, to restore order in St. Domingo, where a dangerous insurrection of the negroes had broken out, under Toussaint, their *sable* chief.

In 1802, on the 6th of January, a court-martial was held on board the Gladiator, for the trial of the mutineers, late of his majesty's ship Temeraire, who had refused to go to the West Indies, to assist in settling the disturbances there. They were found guilty, and executed.

In the month of July, 1803, a letter was sent by the duke of York, commander in chief, to the general officers of the different districts, informing them of the services which the irregular troops may perform, in harrassing the enemy, if an invasion should take place. The chief danger, he observed, to which an irregular force is exposed, arises from a want of confidence and perfect understanding in regard to the purpose which it may have in view. When, therefore, previous discipline cannot be obtained, his royal highness advises, that no company should be formed of a greater number of people than are already known to each other. From the first moment of landing being made, the great object of the irregular troops, is to harrass, alarm, and fatigue the enemy. Nothing can more effectually contribute to this object, than the operations of small bodies of men, well acquainted with the country, who will advance and fire upon the advanced posts of his army, without ever engaging in serious action.

Towards the end of the year, his majesty's brig Woolwich arrived at the custom-house from St. Petersburgh, with his majesty's private property, which had been sent off from Hanover, on the approach of the French. It consisted of ingots and specie to the amount of 300,000l.

In the beginning of May, 1804, a proposition was

made by the French tribunate to the senate to declare Bonaparte emperor of France, and to render the imperial dignity hereditary in his family. Carnot was the only member of the tribunate who opposed this plan, which was soon sanctioned by the senate, and fully adopted.

About the same time, Mr. Addington resigned the seals of chancellor of the Exchequer; and Mr. Pitt being appointed to that office, resumed his former situation of prime minister.

Not long after, Georges, and 18 others, charged with conspiring against the life of Bonaparte, were condemned to death, and Moreau to two years imprisonment, which being changed to exile, he left Paris for Spain, intending to embark from the latter country for America.

During the course of the year, Dessalines, the leader of the blacks of St. Domingo, declared himself emperor of that island, which he called Hayti, and established a legion of honour, and other institutions, in imitation of Bonaparte's government.

In 1805, the king of England, and the emperors of Russia and Germany, agreed to check the ambition of Bonaparte. On the 7th of October, an engagement took place, between the French and Austrians, near Neuburg, upon the Danube, in consequence of an attempt on the part of the French, to pass the river in that point. The Austrians preserved their position, and the enemy were repulsed with the loss of 200 men killed, and 400 taken prisoners.

On the 17th, however, the city of Ulm surrendered to the French army, when general Mack, and a great number of the Austrians, were made prisoners.

On the 21st of the same month, admiral lord Nelson obtained a glorious victory over the combined fleets, off cape Trafalgar, when 19 of the enemy's ships were taken. The French admiral Villeneuve, commander in chief, and two Spanish admirals, were made prisoners. Towards the close of the action, lord Nelson was shot by a rifle musquet. The loss of this gallant admiral was universally lamented. It was felt in every bosom; it was seen in every eye; it will be remembered by every generation.

On the 4th of November, *four ships of the line*, being part of the fleet, which had been fortunate enough to escape from the tremendous attack of lord Nelson, were captured by sir Richard Strachan.

About the same time was published, *Comitatus Anglorum*. This ingenious work informs us, that in Great Britain the number of people capable of rising *en masse*, from 15 to 60 years of age, are 2,744,847. That the volunteers of the united kingdom last March, were 700,000. That there are 98,000 marriages yearly. That, of 68 marriages, three only are observed to be without offspring. That every 35 years produces a new generation; consequently there have been 176 generations since the creation of the world. That there die in Great Britain every year about 332,708; every month, about 25,592; every week, about 6,398; every day, 914; every hour, about 40; and every three minutes, 2!

On the 2d of December, there was a great battle between the French and Austro-Russian army, at Austerlitz.

On the 6th, an armistice was signed between France

and Austria; and on the 27th, Bonaparte and the emperor agreed to make peace.

On the 9th of January, 1806, the remains of the brave lord Nelson were deposited in St. Paul's cathedral, with the greatest funeral pomp ever known.

The Chronology of Usher, Blair, and Playfair, and the Tablet of Memory, are works of merit on this subject.

BOOK IV.

BIOGRAPHY.

CHAP. I.

ALFRED THE GREAT.

Born 849. Died 901.

TO imitate the brightest examples, and to follow the steps of those who, by laudable exertions, have been ornaments of human nature, and an honour to their country, should be the study of every British youth.

Such was Alfred the Great, the youngest son of Æthelwolf, king of the West Saxons, who was born in the year 849. He gave early indications of those virtues and abilities, which were afterwards instrumental in saving his country from utter subversion. His father, fitter for a monk than a king, and entertaining a profound veneration for the see of Rome, which increased with his years, carried this his favourite son to the papal court, when very young; and soon after their return, again sent the young prince thither, with a splendid retinue; where, a report being spread of the

death of Ethelwolf, Leo III. gave him the royal unction, though still a boy, and, as the youngest of five brothers, very remote from any prospect of a throne. It is probable, however, that the pregnant genius of Alfred gave his holiness presages of future greatness; or, perhaps, by this ceremony the pope meant to assume the power for which his successors afterwards contended, of conferring kingdoms at his pleasure. The novelty and grandeur of the scenes which Rome displayed to the youthful hero, made an impression on his mind which was never effaced; and he profited more by his own quickness of apprehension than by the partiality of the pope, who had destined him to be a king.

In the mean time, he had frequent opportunities of displaying his courage against the Danes; and his three elder brothers dying after short reigns, he was appointed first minister and general of the armies to Ethelred, who next assumed the reins of government. In a battle fought soon after, Ethelred was mortally wounded; and Alfred, in the 22d year of his age, was called, to his unspeakable regret, from learned leisure, in which he took the most sincere delight, to the defence, not to the enjoyment, of a crown.

The Danes were ravaging the country far and near, and scarcely had he time to bury his brother, before he was obliged to take the field with inferior numbers. The enemy, however, accepted terms of accommodation, and stipulated to depart the kingdom; but no sooner were they at a distance from a power to which they had reluctantly yielded, than they renewed their devastation; and fresh swarms pouring in from the north, they penetrated into Dorset, the very centre of

Alfred's dominions. Again they were obliged to come to a treaty of the same purport as that which they had lately violated; but with singular perfidy seized the first opportunity of falling on Alfred's army, and, having put it to the rout, obtained possession of Exeter.

The spirit of the prince rose with the dangers he was called to encounter. He collected new forces, and pressed the foe with such vigour, that, after fighting eight battles in one year, he reduced them to the utmost extremity. Still, however, the love of peace was superior to a passion for military glory in the heart of Alfred; he listened to new overtures for accommodation, and insisted only that they should retire from his borders, and suffer no further importations of their countrymen. However, during the very execution of this liberal treaty, news was brought that a fresh band of marauders had landed and surprised Chippenham, then a town of some importance, and were carrying fire and sword through the heart of the kingdom.

This last calamity reduced the English to despair. Each thought of his own preservation, the authority of the king was disregarded, and all his eloquence and his heroism could not inspire them with resolution to make another effort in defence of their liberties and homes. In this dilemma Alfred prudently laid aside the ensigns of royalty, dismissed his attendants, and in the meanest attire endeavoured to conceal himself from the fury of his foes. History relates that he sought an asylum for some time with one of his own cowherds, whose wife, ignorant of the condition of her guest, left him one day in charge of some cakes which were toasting; but the mind of Alfred being intent on higher objects, he neglected his trust, and suffered them to burn; on which

the honest housewife rated him soundly, and observed, as he had no objection to eat her warm cakes, he might have taken some care in toasting them. Alfred was too magnanimous to resent this taunt: it doubtless excited only a smile.

The Danes becoming less ardent in their pursuit, he retired into the isle of Athelney, in Somersetshire, a spot formed by the inundations of the Thone and the Parret, where he established himself; and gradually collecting a few of his most faithful adherents, whom he inspired with hopes of seeing better days, supported them in this sequestered and almost inaccessible retreat, by occasional excursions in the environs.

After lying twelve months in this concealment, meditating projects of delivering his country, he was informed that a party of his followers had routed a considerable army of the Danes, killed their chiefs, and taken the famous raven, or enchanted standard.

This omen of success inspired him with fresh resolution to take the field, and to discover himself to his subjects; but prudently reflecting that caution should precede enterprize, he disguised himself in the habit of a harper, and reconnoitred the enemy's camp in perfect security. His music and his facetious humours were so acceptable to the Danish prince, that he entertained him for some days, little suspecting the quality of his guest, or the hostile object of his visit.

Finding the enemy sunk in supine security from their contempt of the English, he summoned his nobles to bring their followers into the field, and by his appearance re-animated their drooping courage, and inspired them with a desire of liberty or death. Immediately

taking advantage of the popular impression, he led his army against the Danes, who, panic-struck at this unexpected attack, made but a feeble resistance; and after great numbers of them were slain, the rest offered an unconditional submission. Thus Alfred entirely subdued the Danish invaders, against whom he fought 56 battles by sea and land. In order to render the execution of justice more strict and regular, he divided all England into counties and hundreds, and erected county-courts. Every householder was answerable for the behaviour of his family, and even of his guests, if they resided above three days in his house. In the trying of causes, his mode of decision claims our attention.—Twelve freeholders were chosen, who having sworn to administer impartial justice, proceeded to the examination of the cause that was submitted to them. In this simple form of trial we may perceive the origin of juries, or judgments by equals, an institution now almost peculiar to the English nation, admirable in itself, and the best calculated for the preservation of man's natural rights, and the administration of justice, that human wisdom ever devised.

He chose the sheriffs and judges from among the men most celebrated for probity and knowledge in the kingdom. He removed all whom he found unequal to the trust; and the better to guide magistrates of all kinds in the administration of justice, he framed a body of laws, which, though now lost, served long as the basis of English jurisprudence, and is generally esteemed the origin of our *common law*.

Alfred preserved the most sacred regard to the liberty of his people. His concern on this subject extended even to future times, and ought to endear his memory

to every Englishman. "It is just," says he in his will, "that the English should for ever remain *free as their own thoughts*."

Sensible that good morals and knowledge are almost inseparable in every age, though not in every individual, he gave great encouragement to the pursuit of learning. He invited over the most celebrated scholars from all parts of Europe. He established schools every where for the instruction of the ignorant. He founded, or at least repaired, the university of Oxford, and composed a variety of poems, fables, and apt stories, to lead the untutored mind to the love of letters, and bend the heart to the practice of virtue. In a word, he was the father of English law, and English literature.

He introduced and encouraged manufactures of all kinds, and suffered no inventor of any useful or ingenious art to go unrewarded. He prompted men of activity and industry to apply themselves to navigation, and to push commerce into the most distant countries. The elegancies of life are said to have been brought to him even from the Mediterranean and the Indies; and his subjects seeing these desirable productions, and the means of acquiring riches by trade, were taught to respect those peaceful virtues by which alone such blessings can be earned or insured.

This extraordinary man, who is justly considered, both by natives and foreigners, as the greatest prince after Charlemagne that Europe saw for several ages, and as one of the wisest and best that ever adorned the annals of any nation, died in the year 901, in the vigor of his age, and the full strength of his faculties, after a life of 53 years, and a glorious reign of 29 years and a

half. His merit, both in public and private life, may be set in opposition to that of any sovereign or citizen in ancient or modern times. He seems, indeed, as is observed by an elegant and profound historian, to be the complete model of that perfect character, which, under the denomination of a sage, or truly wise man, philosophers have been so fond of delineating without the hopes of ever seeing it realized*.

CHAP. II.

ROGER BACON.

Born 1214. Died 1294.

From 15 John, to 22 Edward I.

THE splendour of the endowments of this illustrious friar would have raised him above the mass of men, in any age; but at the period in which he lived, his attainments in knowledge, contrasted with the general stupidity, rendered him an object of profound respect, and challenge the admiration of all posterity.

Roger Bacon was born at Ilchester, in Somersetshire, in 1214, and educated at Oxford. He afterwards went to the university of Paris, which was then reckoned the grand centre of science and literature. Having acquired all the learning of the times, only to detect its fallacy, and to substitute something better in its room, he returned to Oxford, and assumed the Franciscan habit. The learned leisure that this situation allowed him, he devoted to the ardent prosecution of natural philosophy, his favourite study, in which he made very important discoveries. Like his immortal namesake,

* Hume.

Francis Bacon, who was born in happier days, he emancipated himself from the trammels of the existing philosophy, and pierced the subtleties of the scholastic divinity with an intuitive clearness of sight.

By his extraordinary talents and astonishing progress in sciences, then hid from the rest of the world, or only known to a distinguished few, he could not fail to awaken envy, the constant attendant on worth and genius; and his illiterate fraternity having neither sense nor diligence sufficient to keep pace with his discoveries, and unable to brook his superiority, possessed the vulgar with a notion, that he maintained an intercourse with the agents of darkness. Under this ridiculous pretence, which convinces us how much his attainments were above the level of common understandings, he was restrained from reading lectures; his writings were confined to his convent; and finally, when he had reached the 64th year of his age, he was imprisoned in his cell. Having addressed a treatise to the pope "*on the means of averting the infirmities of old age*," after lying ten years in confinement he obtained his liberty, and returned to Oxford, where he died in 1294.

This honour of his country, and pride of human nature, who darted forth his light like a bright star in a dark hemisphere, was incomparably the greatest man of his time, and in many respects might stand in competition with the most eminent in more enlightened ages. His writings are elegant, close, and nervous, and adorned with such exquisite observations on nature, that he may be said to have unlocked her treasury. In chemistry he stood unrivalled; and almost every ope-

ration which has been adopted in modern practice may be traced to its origin in his various works. He describes the preparation of gun-powder in the most precise terms; yet the jesuit Barthol Schwartz, who lived several ages after, must be allowed the honour of pointing out the destructive purposes to which this composition may be applied. In short, from an extensive perusal of the works of this great luminary, it will be found that Bacon was a linguist and grammarian; that he was well versed in the theory and practice of perspective; that he understood the use and manufacture of convex and concave glasses; that the camera obscura, the burning-glass, and telescope, were familiar to him; and that he was intimately acquainted with geography and astronomy.

But with all his acquirements, real and extensive as they are, much dross was necessarily mixed. This was the fault of the age, and not of the man. Judicial astrology was then in high repute, and Bacon was a dupe to all its illusions. He tells us in one place, that life may be preserved by spermaceti, aloes, and dragon's flesh; and that immortality itself may be secured by the philosopher's stone. These were the reveries of the times: in some respects it was impossible to submit them to the test of experiment, and opinion will ever be vague. He seems to have been unacquainted with that noble discovery, the polarity of the magnetic needle; but he has largely descanted on the hazel-twig of divination.

"Yet notwithstanding his absurdities and chimeras, this Bacon," says Voltaire, "must be allowed to be a very great man for the age in which he lived. At that period all knowledge was confined to the Arabians, who

were the philosophers of Christendom. The king's fool," adds this witty author, "was always a native, but the doctor was either an Arabian or a Jew."

CHAP. III.

CARDINAL WOLSEY.

Born 1471. Died 1530.

From 10 Edward IV. to 21 Henry VIII.

THOMAS WOLSEY, so famous in history, was born at Ipswich, in the year 1471. He was descended, according to some of our best historians, from poor but honest parents, and the common tradition is, that he was the son of a butcher; though it appears, from his father's will, that he had an estate, which, in the possession of a plebeian at that time, was very considerable. While at Oxford, he was charged with the education of three sons of Thomas Gray, marquis of Dorset, who presented him to the rectory of Lymington, in Somersetshire. He had not long resided on this benefice, before sir Amias Paulet, a justice of the peace, set him in the stocks for being drunk, as it is said, and making a disturbance at a fair in the neighbourhood; but the knight had reason afterwards to repent of this affront; for Wolsey being made lord chancellor, sent for him, and after a severe expostulation, confined him for five or six years in the Temple, before he would grant him a discharge.

Fox, bishop of Winchester, having introduced him to court, he soon obtained the deanery of Lincoln. Henry VIII. who had a great affection for him, appointed him a member of the privy-council, made him

prime minister; a little after, bishop of Lincoln; and afterwards archbishop of York. By the interest of Francis I. he was raised to the purple; and Henry made him lord chancellor.

He aspired to the popedom upon the death of Leo X. and Adrian VI. but without success. He still, however, continued to direct the councils of his sovereign, and to lord it over his equals, and even his superiors. He treated the most powerful of the nobility with arrogance and contempt; and Stafford, duke of Buckingham, the only courtier who ventured to oppose him, fell a victim to his intrigues. This gave occasion to an excellent *bon mot* of Charles V. "That the butcher's dog (alluding to Wolsey's origin) had worried the fairest hart in England."

Wolsey, who had long ceased to be popular, was now execrated by the people; but he continued to enjoy the undiminished favour of his sovereign; and those whom he could not conciliate by his bounty, he awed by his terrors. His establishment was princely, and his munificence, or rather his ostentation, was correspondent.

Having now seen this extraordinary character at the height of his glory, and just vibrating on the pinnacle of renown, giddy with prosperity, and therefore unable to keep his hold, let us attend his rapid decline.

Henry had long conceived an ardent affection for a young lady of the court (daughter of sir Thomas Bullen) and finding that her virtue was impregnable, was determined to remove every obstacle which stood in his way to an union with her on honourable terms. Wolsey now fell under the king's displeasure. His too great obsequiousness to the see of Rome, in the process relat-

ing to the king's divorce from queen Catharine, made him odious to Henry, who, tired out with the continual complaints made against him, and the repeated solicitation of Anna Bullen, seized all his furniture, papers, and money. The riches that he had amassed were so immense, that probably they invited the hand of power.

Some time after, however, the king gave him distant gleams of hope by sending him a ring, accompanied with a gracious message. Wolsey, who like every bad character, was proud to his equals, and mean to those above him, happening to meet the king's messenger on horseback, immediately alighted, and throwing himself on his knees in the mire, received, in that abject manner, those marks of his majesty's condescension.

Having retired to his diocese of York, he performed many charitable and popular acts. But he was not allowed to remain long unmolested. He was arrested for high treason by the earl of Northumberland, and committed to the custody of the lieutenant of the tower, who had orders to bring him to London. This disgrace affected his mind to such a degree, that he fell sick at Sheffield, in the earl of Shrewsbury's house, whence, by slow degrees, he proceeded to Leicester, where he died, on the 29th of November, 1530. "Had I but served my God," cried he, a little before he expired, "as diligently as I have served my king, he would not have forsaken me in the days of my grey hairs."

"Oh, how wretched
"Is that poor man, that hangs on prince's favours.
"There is, betwixt that smile which we aspire to,
"That sweet regard of princes, and our ruin,
"More pangs and fears, than war and women know;

"And when he falls, he falls like *Lucifer*,
"Never to hope again."

Wolsey's treason, indeed, seems rather to have been against the people than against the prince, or even the state. For although the violence and obstinacy of Henry's character ought, perhaps, to apologize for many of the cardinal's public measures, his continued extortions upon the subject, by the most iniquitous methods, in what he called the legantine court, admit of no alleviation.

His schemes, however, for the promotion of learning, were noble; of which the college and lectures founded by him at Oxford, and his school at Ipswich, are lasting monuments.

CHAP. IV.

SIR THOMAS MORE.

Born 1480. Beheaded 1535.

From 19 Edward IV. to 26 Henry VIII.

AS great examples have a tendency to excite men to virtue, none can be exhibited to the present age, with more probability of success, than that of sir Thomas More, lord chancellor of England in the reign of Henry VIII. This very extraordinary person was born in London, in the year 1480.

At the age of 21, he was a burgess in parliament, and distinguished himself remarkably in 1503, by opposing a subsidy demanded by Henry VII. with such strength of argument, that it was actually refused by parliament. As soon as the vote had passed against it,

Mr. Tyler, one of the king's privy-council, went presently from the house, and told his majesty, "*that a beardless boy had overthrown his purpose.*" This was giving his country a very early pledge, indeed, of patriotism and probity, from which nothing could ever seduce him whilst he lived. He had too much intrepidity to be deterred by power, and too great a contempt for the things of this world to be allured by the prospect of wealth and honour.

After making suitable progress in rhetoric, logic, and philosophy, at Oxford, he was removed to the New Inn, London, in order to apply to the law, and soon after to Lincoln's-Inn, where he continued his study till he became a barrister.

Sir Thomas's parts soon became so well known to Henry VIII. that he ordered cardinal Wolsey to engage him in the service of the court. With this view, the cardinal offered him a pension, which sir Thomas refused. In 1520, however, he was made treasurer of the Exchequer. Upon the disgrace of cardinal Wolsey, he was intrusted with the great seal. This favour was the more extraordinary, as he was the first layman who enjoyed it; but the truth is, it was apparently conferred with a view of engaging him to approve of the intended divorce of the king from Catharine of Arragon. Accordingly, he entered upon it with just apprehensions of the danger to which it would expose him on that account; and after he had executed all the duties of it for near three years, with a most exemplary diligence, a true magnanimity of spirit, and a most uncorrupted integrity, he resigned it, May 16, 1533. He did it with a view to his own safety, as he could not satisfy his conscience with regard to the divorce.

The day after his resignation, he attended his wife and family to church, and when mass was finished, instead of going out first, as had been usual, he went to the pew door, and with a low bow, said, "Madam, my lord is gone." This was the first intimation he had given her that he was no longer chancellor. His wife at first thought him in jest; but when she found he was in earnest, she broke out into reproaches and lamentations at his want of attention to his interest; but sir Thomas turned the conversation to another subject, not seeming to heed the storm.

In 1535, he died upon the scaffold, with heroic constancy, for refusing to acknowledge the king's supremacy. Sir Thomas, who was a man of gay humour, retained his facetiousness to the last. When he laid his head on the block, and saw the executioner ready with his weapon, "Stay, friend," said he, "till I put aside my beard," for, added he, "it never committed treason." Mr. Addison, after descanting on this behaviour, observes, that "what was only philosophy in this extraordinary man, would be phrenzy in one who does not resemble him as well in the chearfulness of his temper, as in the sanctity of his life and manners."

It has been observed of this illustrious character, that the ignorant and the proud, however exalted, were such as he respected the least, but he was the patron of every man of science and merit, and kept up a correspondence with all the literati in Europe. As a judge, he was most upright; as a man, truly amiable, facetious, and pleasing; but on the subject of religion he was weak and credulous to a high degree. Tinctured with superstition, and attached to the Romish church with inflexible adherence, he suffered his good sense to be

obscured by the glosses of error and the dogmas of theologists, and fell a martyr, perhaps, to obstinacy rather than to reason. Yet we cannot help respecting the errors of principle, as much as we despise the whif-flings of inconsistency :

"For modes of faith let graceless zealots fight,
"His can't be wrong whose life is in the right."

Sir Thomas More was the author of many and various works, being admirably skilled in every branch of polite learning. His most popular work is the history of Utopia, describing the most perfect state of a commonwealth. His eldest daughter, Margaret, was a woman of fine parts and amiable qualities; and seems to have been to More what Tullia was to her father, Cicero, his delight and comfort. She was well acquainted with the Greek and Latin languages. Cardinal Pole was so charmed with the elegance of her Latin style, that he could not believe what he read was written by a woman.

CHAP. V.

SHAKESPEARE, THE PRINCE OF DRAMATIC POETS.

Born 1564. Died 1616.

From 6 Elizabeth, to 13 James I.

WILLIAM SHAKESPEARE, the great poet of nature, and the glory of the British nation, was descended of a reputable family at Stratford upon Avon. His father was in the wool trade, and dealt considerably that way. He had ten children, of whom our immortal poet was the eldest, and was born in the year

1564. At a proper age he was put to the free-school in Stratford, where he acquired the rudiments of grammatical education. Whether he discovered at this time any extraordinary genius or inclination for literature, is uncertain. His father had no design to make a scholar of him; on the contrary, he took him early from school, and employed him in his own business. In this, however, he did not long continue. Happening to get acquainted with some idle and dissipated fellows (characters to be avoided by all well-disposed young persons) he was prevailed upon to engage with them in robbing sir Thomas Lucy's park, near Stratford. To escape the law, he fled to London, where, as might be expected from a man of wit and humour in his circumstances, he threw himself among the players. Thus was this grand luminary driven, by a very untoward accident, into his genuine and proper sphere.

His first admission into the play-house was suitable to his appearance; a stranger, and ignorant of the art, he was glad to be taken into the company of a very mean rank; nor did his performance recommend him to any distinguished notice.

As a writer, however, he is an absolute original. Though unacquainted, as is generally believed, with the dramatic laws, or with any model worthy of his imitation, he has by a bold delineation of general nature, and by adopting the solemn mythology of the North, witches, fairies, and ghosts, been able to affect the human mind more strongly than any other poet. By studying only the heart of man, his tragic scenes come directly to the heart; and by copying manners, undisguised by fashion, his comic humour is for ever new.

It is said that queen Elizabeth was so much pleased with the delightful character of Sir John Falstaff, in the two parts of "Henry the Fourth," that she commanded the author to continue it for one play more, and to shew the knight in love; which he executed inimitably in "The Merry Wives of Windsor."

This great luminary of the virgin reign, and the father of our drama, died the 23d of April, 1616, being in the 54th year of his age, and was interred among his ancestors, on the north-side of the chancel, in the great church of Stratford, where there is a handsome monument erected for him, inscribed with the following elegiac distich in Latin:

"Judicio Pylium, genio Socratem, arte Maronem,
"Terra tegit, populus mœret, Olympus habet."

Earth covers, mankind lament, Heaven contains,
A Nestor in judgment, a Socrates in genius, a Virgil in art.

CHAP. VI.

SIR WALTER RALEIGH.

Born 1552. Beheaded 1618.

From 5 Edward VI. to 15 James I.

THIS illustrious man, descended from an ancient family in Devonshire, was born in the year 1552.—After a proper education at school, he was sent to Oxford, where he soon distinguished himself by great force of natural parts, and an uncommon progress in academical learning; but ambition prompting him to pursue the road to fame in an active life, he did not remain long at Oxford.

In 1580, he was a captain in the wars of Ireland. At his return home, he was introduced to court; and, as Fuller relates, upon the following occasion. Queen Elizabeth, taking the air in a walk, stopped at a dirty place, in doubt whether she should proceed; when Raleigh, dressed in a gay and genteel habit of those times, immediately spread his new plush cloak on the ground, on which her majesty gently treading, was conducted over clean and dry. The truth is, Raleigh always made a very elegant appearance. He had a polite address, a handsome person, strong natural wit, and a good judgment, with a bold and plausible tongue, by which he could set out his parts to the best advantage. All these were very engaging advocates for royal favour, especially in a female sovereign; and, therefore, it is no wonder that he advanced apace in it.

Having a great desire to make new discoveries, he suggested the first idea of the English colonies in North America; and attempted, as early as the year 1586, a settlement in the country now known by the name of North Carolina, then considered as part of Virginia, from which he brought tobacco to England. Queen Elizabeth was not backward in promoting the advantages which were promised by the traffick of this herb; but her successor, James I. held it in such abomination, that he used his utmost endeavours to explode the use of it.

Some time after, he projected the discovery and conquest of Guiana, in South America; and, sending first an old experienced officer to take certain informations concerning it, he went thither himself in 1595, destroyed the city of San Joseph, and took the Spanish governor.

Upon the accession of king James, he lost his interest at court, was stripped of his preferments, and even accused, tried, and condemned for high treason. That there was something of a treasonable conspiracy against the king was generally believed, but it was never proved that he was engaged in it. Being reprieved, he was committed prisoner to the tower of London, and deprived of his estate, which was given to the king's minion, Robert Carr, afterwards earl of Somerset. Henry, the king's eldest son, who was Raleigh's friend, endeavoured to procure him his estate, and had nearly effected it; but that hopeful and discerning prince dying in 1612, all his views were at an end.

But after he had languished many years in confinement, when the envy excited by his superior talents was laid asleep, and commiseration awakened for his unhappy condition, a report which he propagated, of a wonderful rich gold mine that he formerly had discovered in Guiana, obtained universal belief. People of all ranks were impatient to take possession of a country overflowing with the precious metal, and to which the nation was supposed to have a right by priority of discovery. Thinking, therefore, that he had already undergone sufficient punishment, James ordered him to be released from the Tower; and when the hopes held out to the nation had induced multitudes to adopt his views, the king gave him permission to pursue the projected enterprize, and vested him with authority over his fellow-adventurers; but being still diffident of his intentions, he refused to grant him a pardon, that he might have some check upon his future conduct.

Though Raleigh's commission impowered him only to settle on a coast possessed by savages and barbarous

inhabitants, he steered his course directly for the river Oronoco, where he knew there was a Spanish town, named St. Thomas, and sent a detachment under his son and his old associate, captain Keymis, who had accompanied him in his former voyage, to dislodge the Spaniards, and take possession of that town. The Spaniards, apprised of this invasion, opposed the landing of the English, as they had foreseen. Young Raleigh was killed by a shot, while animating his followers. Keymis, however, and his surviving companions, not dismayed by the unfortunate incident, took, plundered, and burnt St. Thomas, but found in it no booty any way adequate to their expectations.

On the examination of Raleigh and his companions before the privy-council, it appeared that he had committed hostilities against the subjects of his majesty's ally, the king of Spain, and that he had burnt and destroyed a town belonging to that prince; so that he might have been tried either by common law for this act of violence, or by martial law for this breach of orders. But it was the opinion of all the crown lawyers, as we learn from Bacon, that as Raleigh still lay under an actual attainder for high treason, he could not be brought to a new trial for any other crime. James, therefore, in order to satisfy the court of Madrid, which was very clamorous on this occasion, signed the warrant for his execution upon his former sentence. Finding his fate inevitable, he collected all his courage, and met death with the most heroic indifference. Feeling the edge of the axe, with which he was to be beheaded, "'Tis a sharp remedy," said he, "but a sure one for all ills!" then calmly laid his head on the block, and received the fatal blow.

Of all the transactions of a reign distinguished by public discontent, this was perhaps the most odious. Men of every condition were filled with indignation against the court. Even such as acknowledged the justice of Raleigh's punishment, blamed the measure. They thought it cruel to execute a sentence, originally severe, and tacitly pardoned, which had been so long suspended; and they considered it as mean and impolitic, even though a new trial had been instituted, to sacrifice to a concealed enemy of England, the only man in the kingdom whose reputation was high for valour and military experience.

During his confinement in the Tower, he devoted the greatest part of his time to reading and writing. His grand work is the *History of the World;* which has always been considered as a very masterly production.

In his character, he united almost every great quality that can deserve the veneration of mankind. As a soldier, a statesman, and a scholar, he might have rivalled the most eminent personages of ancient or modern times. He was not only learned himself, but the patron of learning. To him we are indebted for Spencer, the poet of fancy; whom he introduced from Ireland, and whose fame will be co-eternal with his own. In short, in whatever situation Raleigh appeared, his character was luminous and great; and he seemed to live for his country rather than himself.

His widow and children met with the basest ingratitude and ill-usage from the same pusillanimous court which had taken off the husband and the father; and thus aggravated and perpetuated that infamy, which time might have softened, or its compunction have effaced.

Who can read the life of sir Walter Raleigh without being impressed with the truth of this maxim; "that ambition, however honourably displayed, is seldom the path that conducts to private felicity."

CHAP. VII.

LORD CHANCELLOR BACON.

Born 1561. Died 1626.

From 3 Elizabeth, to 2 Charles I.

FRANCIS BACON, viscount St. Alban's, and lord high chancellor of England, one of the greatest and most universal geniuses that any age or country has produced, was son of sir Nicholas Bacon, lord-keeper of the great seal, and born at York-house, in the Strand, on the 22d of January, 1561. Being thus descended, he was early initiated into a court life, and, as he himself expresses it, both by family and education, tinged with civil affairs. His extraordinary parts, even when a child, were so conspicuous at court, that the queen would often delight to talk with him, and was wont to call him her young lord-keeper. One saying of his she was particularly pleased with. Having asked him his age, when he was yet a boy, he answered her readily, that he was two years younger than her majesty's happy reign*.

Before he was full 16 years of age, he perfectly understood Aristotle's philosophy. About this time, his father died, without making that separate provision for him which he had intended. This obliging him to think of some profession for his subsistence, he applied

* Rawley's Life of Lord Bacon.

himself, more through necessity than choice, to the study of the common law. An early friendship had been contracted between him and the earl of Essex, who was educated at the same college. Cecil, who bore a mortal hatred to Essex, and entertained a secret jealousy of Bacon, on account of his superior talents, threw insurmountable obstacles in his way to preferment, suggesting to the queen, that he was a speculative man, whose head was filled with philosophical notions, and therefore more likely to perplex than to forward public business; hence, the utmost interest of Essex, who, with all the warmth of an affectionate friend, solicited his preferment, could not possibly accomplish it.

Upon the accession of king James to the throne, however, his professional merit was rewarded; and at last, in 1618, he was appointed lord high chancellor of England, and created baron of Verulam, in Hertfordshire. In this high situation, he remained till the year 1621, when he was accused of bribery and corruption. The king gave him positive advice to submit himself to his peers, promising, upon his princely word, to screen him in the last determination; or, if that could not be, to reward him afterwards with ample retribution of favour. The chancellor, though he saw his approaching ruin, if he did not plead for himself, resolved to obey, and took his leave of his majesty with these words: "Those that will strike at your chancellor, it is much to be feared, will strike at your crown;" and wished, as he was the first, so he might be the last of sacrifices*. The house of peers gave judgment against

* The greatest blame is generally laid on his servants; and there

him, "That he should be fined 40,000l. and be confined in the Tower during the king's pleasure; that he should for ever be incapable of any office, place, or employment in the state; and that he should never sit in parliament." But he was soon restored to liberty, had his fine remitted, and was summoned to the first parliament of Charles I. After this sentence he retired from civil affairs, and gave himself wholly up to philosophy and writing.

On account of the extent and variety of his talents, Bacon is justly considered as one of the most extraordinary men that any nation ever produced. He broke through the scholastic obscurity of the age, like the sun from beneath a cloud, and shewed mankind the necessity of thinking for themselves, in order to become truly learned. He began with taking a view of the various objects of human knowledge: he divided these objects into classes; he examined what was already known, in regard to each of them; and he drew up an immense catalogue of what yet remained to be discovered. He went even further; he shewed the necessity of experimental physics, and of reasoning experimentally on moral subjects†.

This great man died on the 9th of April, 1626, and was interred in St. Michael's church, St. Alban's, where a monument was erected for him by sir T. Meautys, once his secretary, and afterwards clerk of the council.

is no doubt but some of them were guilty, and that their lord had this opinion of them. One day, during his trial, passing through a room where several of his domestics were sitting, upon their rising up to salute him, he said, "Sit down, my masters, your rise hath been my fall."

† His works, collected into five vols. 4to. were beautifully and accurately printed by Bowyer and Strahan, in 1765.

His effigy is in alabaster, with a Latin inscription, by sir Henry Wotton, of which the following is a translation:

"Francis Bacon, baron of Verulam, viscount St. Alban's, or by more conspicuous titles; of sciences the light; of eloquence the law, sat thus: who, after all natural wisdom and secrets of life he had unfolded, Nature's law fulfilled, 'Let compounds be dissolved!' in the year of our Lord, 1626, of his age 66."

Let the young reader, however, who admires his splendid talents, beware of imitating his defects. Integrity is to be held fast, whatever be the consequence.

CHAP. VIII.

ADMIRAL BLAKE.

Born 1599. Died 1657.

From 41 Elizabeth, to 10 Charles II.

THIS famous admiral was born in 1599, at Bridgewater, in Somersetshire, and educated at Oxford, where he wrote a copy of verses on the death of Camden. He was pretty early tinctured with republican principles; and disliking that severity with which Laud, then bishop of Bath and Wells, pressed uniformity in his diocese, he began to fall into the puritanical opinions. The natural bluntness and sincerity of his disposition led him to speak freely upon all occasions, insomuch that, his sentiments being generally known, the puritan party got him elected member for Bridgewater in 1640.— When the civil war broke out, he declared for the parliament. However, when the king came to be tried, Blake disapproved of that measure, as illegal, and was

frequently heard to say, he would as freely venture his life to save the king's, as ever he did to serve the parliament. But this is thought to have been chiefly owing to the humanity of his temper; since, after the death of the king, he fell in wholly with the republican party, and, next to Cromwell, was the ablest officer the parliament had.

In 1649, he was appointed to command the fleet, in conjunction with colonels Deane and Popham. Soon after, he was ordered to sail with a squadron of men of war, in pursuit of prince Rupert, whose fleet had steered their course to Lisbon, where they were protected by the king of Portugal. The king, however, refusing to allow the admiral to attack the prince, Blake took five of the Brazil fleet, richly laden, and at the same time sent notice to him, that unless he ordered the prince's ships out of his river, he would seize the rest of the Portuguese ships from America. In 1650, the prince endeavoured to get out of the harbour, but was driven in again by Blake, who sent to England nine Portuguese ships bound for Brazil. These were scarcely arrived, when he and Popham met with a fleet of 23 sail from Brazil for Lisbon, of whom they sunk the admiral, took the vice-admiral, and 11 other ships, having 10,000 chests of sugar on board.

In his return home, he took a French man of war, the captain of which had committed hostilities. He sent this prize, which was reported to be worth a million, into Calais, and followed the prince to the port of Carthagena, where he lay with the remainder of his fleet. In the mean time, prince Rupert sailed to Malaga. Blake having received information that he had destroyed many English ships, followed him, and at-

tacked him in the port, in January, 1651, entirely defeated him, and burnt his whole fleet, 2 only excepted. In February, he took a French man of war, of 40 guns, and sent it with other prizes, to England. Soon after he came with his squadron to Plymouth, when he received the thanks of the parliament, and was made warden of the cinque ports. In 1652, he was appointed sole admiral for nine months, on a prospect of a Dutch war. The states sent Van Trump, with 45 sail of men of war, into the Downs, to insult the English. Blake, however, though he had but 23 ships, and could expect no succour but from major Bourne, who commanded eight more, yet, being attacked by Van Trump, fought him bravely, and forced him to retreat. In this, and two successive engagements, the Dutch lost 11 men of war, 30 merchant ships, and had 1500 men slain. The English lost only one ship, but not fewer men than the enemy.

When Cromwell assumed the supreme power, the states hoped to gain great advantage from it, but were disappointed. Blake said on this occasion to his officers, "*It is not for us to mind state affairs, but to keep foreigners from fooling us.*" Towards the end of April, 1653, Blake and his colleagues, with a fleet of 100 sail, stood over to the Dutch coast, and forced their fleet to take shelter in the Texel; where, for some time, they were kept by Monk and Deane, while Blake sailed northward. At last Trump got out, and drew together a fleet of 120 men of war. On the 3d of June, Deane and Monk engaged him at the North Foreland. On the 4th, Blake came to their assistance with 18 fresh ships, by which means a complete victory was gained;

and if the Dutch had not again saved themselves on Calais sands, their whole fleet had been sunk or taken.

While the fleet was in the Mediterranean, the Algerines were so much afraid of this brave admiral, that they stopped their Sallee rovers, obliged them to deliver up what English prisoners they had on board, and sent them to Blake in order to procure his favour. The dey of Tunis, however, sent him a haughty answer. "Do your worst," said he, "do you think we fear your fleet?" On hearing this, Blake, as his custom was when in a passion, began to curl his whiskers; and, after a short consultation with his officers, bore into the bay of Porto Ferino with his great ships, when, coming within musket shot of the castle, he fired on it so briskly, that in two hours it was rendered defenceless, and the guns on the works along the shore were dismounted, though sixty of them played at one time upon the English. He found nine ships in the road, and ordered every captain, even of his own ship, to man his long boat with choice men, in order to enter the harbour, and fire the Tuniseens, while he and his fleet covered them from the castle, by playing continually on it with their cannon. The seamen in their boats boldly assaulted the pirates, and burnt all their ships, with the loss of twenty-five men killed, and forty-eight wounded. This daring action spread the terror of his name through Africa and Asia, which had for a long time before been formidable in Europe.

Not long after this, the Spanish plate fleet made their appearance, when a ship with two millions of plate on board, and another very richly laden, were taken near Cadiz. These prizes, together with all the prisoners, were sent into England under general

Montague, and Blake remained in the Mediterranean, till being informed that another plate fleet had put into Santa Cruz, in the island of Teneriffe, he sailed thither in April 1657, with a fleet of twenty-five men of war. On the 20th, he came into the road of Santa Cruz, and, though the Spanish governor had timely notice, was a man of courage and conduct, and had disposed all things in the most proper manner, so that he looked upon an attack as what no wise admiral would think practicable; yet Blake, having summoned him, and received a short answer, was determined to force the place, and to burn the fleet; which he performed in such a manner as appears next to incredible. It is allowed to be one of the most remarkable actions that ever happened at Sea. Upon his return to the Mediterranean, he cruized some time before Cadiz; but finding himself declining fast, resolved to return home. He accordingly sailed for England, but lived not to see his native land; for he died just as the fleet was entering Plymouth, on the 17th of August, 1657, aged 58.

CHAP. IX.

MILTON.

Born 1608. Died 1704.

From 5 James I. to 25 Charles II.

MR. JOHN MILTON, a most illustrious English poet, was descended from an ancient family in the vicinity of Oxford. His father embraced the Protestant religion in his youth, and was on that acconnt disinherited. This event brought him to London,

where he applied himself to the business of a scrivener, and, marrying afterwards a lady of good family, settled in a house which he purchased in Bread-street. Here the poet, his eldest son, was born, in 1608, and trained with great care from his infancy by his parents. He applied so intensely to books, at St. Paul's school, that he hurt his constitution; for, after he was 12 years of age, he sat up half the night at his studies. This is supposed to have done the first injury to his eyes, of which he afterwards entirely lost the sight. He made an extraordinary progress, and gave some early specimens, both in Latin and English, of an admirable genius for poetry.

At Cambridge he neglected no part of academical learning, although his chief pleasure lay in cultivating his poetical talents. After he had taken the degree of master of arts, he left the university, and returned to his father; who, having acquired a competent fortune, had retired into Buckinghamshire. In this retreat, Milton enriched his mind with the choicest stores of Grecian and Roman learning; and the poems entitled *Comus*, *l'Allegro*, *Il Penseroso*, and *Lycidas*, all written in that county, would have transmitted his fame to the latest posterity, if he had never performed any thing else.

During the period of the commonwealth, he was much engaged in political controversies; but after the restoration he applied himself diligently to finish his immortal poem, *Paradise Lost*. In this pursuit, he had a person to read to him; and Mr. Ellwood, afterwards an eminent writer among the quakers, attended him for this purpose.

When the poem was finished, he put it into Mr.

Ellwood's hands, desiring him to read it over, and give him his opinion of it. Upon returning it, he modestly and freely did so. "And after some farther discourse about it," says Mr. Ellwood, "I pleasantly told him, that he had said much of Paradise Lost, but what had he to say of Paradise found?" From this hint he immediately began his Paradise Regained.

This incomparable poet died in 1674, at his house near Bunhill-fields, and was interred near his father in the chancel of St. Giles, Cripplegate; but no monument being found there afterwards, a decent one was erected in 1737, in Westminster-abbey, by Mr. Benson.

Dryden passes on Milton the following high encomium:

"Three poets in three distant ages born,
"Greece, Italy, and England, did adorn:
"The first in loftiness of thought surpass'd,
"The next in majesty, in both the last.
"The force of nature could no farther go;
"To make a third she join'd the other two."

CHAP. X.

MR. LOCKE.

Born 1632. Died 1704.

From 7 Charles I, to 2 Anne.

MR. JOHN LOCKE, the celebrated philosopher, author of the *Essay on the Human Understanding*, *Thoughts on Education*, &c. was born in Somersetshire, in 1652. His father, who had been bred to the law, was steward to colonel Alexander Popham; but on

the commencement of the civil wars, he became a captain in the army of the parliament. As he was very desirous that his son might receive a good education, he placed him at Westminster-school, where he remained till he had attained the age of 19, at which period he was removed to Oxford, where he soon distinguished himself by his abilities. He entered upon the study of physic, and even practised it at Oxford; but finding his constitution unfit for the fatigue of too much business, he gave it up, and began to apply himself to philosophy. He had also, at different times, several places under government.

It is remarkable, that sir Isaac Newton's Principia was finished about the same time with Mr. Locke's Essay on the Human Understanding; works in which both introduced a new and true way of philosophising, founded upon experience and observation; and which effectually overturned the philosophy of Descartes, the one with regard to the great system of the world, and the other in the system of men.

This eminent man had a great knowledge of the world, and of the business of it; and his probity, his wisdom, his experience, and his gentle manners, gained him the respect of his inferiors, the esteem of his equals, and the friendship and confidence of the great. He was at first pretty much disposed to give advice where he thought it was wanted; but experience of the little effect it generally produced, made him grow more reserved. His conversation, for the most part, turned upon useful and serious subjects; yet, when an opportunity naturally occurred, he readily entered into the free and facetious. He was master of a number of entertaining stories, which he always introduced with

great propriety, and told in a very agreeable manner; and he was no enemy even to raillery, when delicate and innocent. He was fond of conversing with mechanics in their own way; and used to say, that the knowledge of the arts contained more true philosophy than learned hypotheses. By putting questions to artificers, he would sometimes discover a secret in their art, which they did not well understand themselves, and by these means give them views entirely new, which they put in practice much to their advantage. He took delight in making use of his reason in every thing he did. He often used to say himself, that there was an art in every thing; and it was easy to be convinced of it, to see the manner in which he went about the most trifling thing he did, and always with some good reason.

Mr. Locke died on the 28th of October, 1704, in the 73d year of his age. A little before his death he declared, "*that he was in the sentiments of perfect charity towards all men, and of a sincere union with the church of Christ, under whatever name distinguished.*"

In the latter end of his life he contracted a friendship with Anthony Collins, esq. to whom he left a letter to be delivered after his death, which concludes with the following remarkable words: "May you live long and happy in the enjoyment of health, freedom, content, and all those blessings which Providence has bestowed on you, and your virtue entitles you to. You loved me living, and will preserve my memory now I am dead. All the use to be made of it is, *that this life is a scene of vanity, which soon passes away, and affords no solid satisfaction, but in the consciousness of doing well, and in hopes of another life. This is what I can say*

upon experience, and what you will find to be true when you come to make up the account. Adieu."

The highest eulogium was bestowed upon Mr. Locke by queen Caroline; who, having erected a pavillion in honour of philosophy in Richmond park, placed there our author's bust with those of Bacon, Newton, and Clarke, as the four greatest of the English philosophers.

CHAP. XI.

ADDISON.

Born 1672. Died 1719.

From 23 Charles II, to 5 George I.

THE celebrated Joseph Addison, esq. son of Dr. Addison, dean of Litchfield, was born in the year 1672. He studied the Latin and Greek languages, for some time, in the Charter-house, where he commenced his acquaintance with sir Richard Steele. About 15 he was entered at Queen's-college, Oxford, where he applied very closely to the study of classical learning, in which he made a surprising proficiency.

Mr. Addison had been closely pressed, while at the university, to enter into holy orders, and had once resolved upon it; but his great modesty, his natural diffidence, and an uncommon delicate sense of the importance of the sacred function, made him afterwards alter his resolution; and having expressed an inclination to travel, he was encouraged thereto by his patron, sir John Somers, who by his interest procured him from the crown a pension of 300l. per annum, to support him in his travels. He accordingly made a tour to Italy in the year 1699; and, in 1701, he wrote a poetical

epistle from Italy to the earl of Halifax, which has been universally esteemed as a most excellent performance.

When he returned to England in 1702, with a meanness of appearance which gave testimony to the difficulties to which he had been reduced, he found his old patrons out of power; but he remained not long neglected, or useless. The victory at Blenheim, 1704, spread triumph and confidence over the nation, and lord Godolphin, lamenting to lord Halifax that it had not been celebrated in a manner equal to the subject, desired him to propose it some better poet. Halifax named Addison: who, having undertaken the work, comunicated it to the treasurer, while it was yet advanced no further than the simile of the angel, and was immediately rewarded by succeeding Mr. Locke in the place of commissioner of appeals. In the following year he was at Hanover with lord Halifax; and the year after, he was made under secretary of state to sir Charles Hedges; in which office he acquitted himself so well, that the earl of Sunderland, who succeeded sir Charles, continued Mr. Addison in his employment.

The marquis of Wharton, being appointed lord lieutenant of Ireland in 1709, took Mr. Addison with him as his secretary. Her Majesty also made him keeper of the records of Ireland, and as a farther mark of her favour, considerably augmented the salary annexed to that place. Whilst he was in this kingdom, the Tatler was first published, and he discovered his friend, sir Rich. Steele, to be the author, by an observation on Virgil, which he had comunicated to him. He afterwards assisted considerably in carrying on this paper, which the author acknowledges. The Tatler being laid down, the Spectator was set on foot, and Mr. Addison fur-

nished great part of the most admired papers. The Spectator made its first appearance in March, 1711, and was brought to a conclusion in September, 1712.

His celebrated Cato appeared in 1713. He formed the design of a tragedy upon this subject when he was very young, and wrote it when on his travels. He retouched it in England, without any intention of bringing it upon the stage; but his friends being persuaded it would serve the cause of liberty, he was prevailed on by their solicitations, and it was accordingly exhibited on the theatre, with a prologue by Mr. Pope, and an epilogue by Dr. Garth. It was received with the most uncommon applause, having run 35 nights without interruption. The whigs applauded every line in which liberty was mentioned, as a satire on the tories; and the tories echoed every clap, to shew that the satire was unfelt.

About this time, another paper, called the Guardian, was published by Steele, to which Addison was a principal contributor. It was a continuation of the Spectator; and was distinguished by the same elegance, and the same variety; but in consequence of Steele's propensity to politics, was abruptly discontinued, to write the Englishman. The papers of Addison are marked in the Spectator by one of the letters in the name of *Clio*, and in the Guardian by a *hand*.

Before the arrival of king George, he was made secretary to the regency, and was required by his office to send notice to Hanover that the queen was dead, and that the throne was vacant. To do this would not have been difficult to any man but Addison, who was so overwhelmed with the greatness of the event, and so distracted by choice of expression, that the lords, who

could not wait for the niceties of criticism, called Mr. Southwell, a clerk in the house, and ordered him to dispatch the message. Southwell readily told what was necessary in the common style of business, and valued himself to have done what was too hard for Addison..

In 1716, he married the countess-dowager of Warwick, whom he is said to have first known by becoming tutor to her son. The year after, he rose to his highest elevation, being made secretary of state. In this office, however, he did not long continue, on account of his declining health. He died at Holland-house, in the year 1719, leaving no child but a daughter. The interview he had with the earl of Warwick on his death-bed, was of a very solemn nature. Lord Warwick was a young man of very irregular life, and, perhaps, of loose opinions. Addison, for whom he did not want respect, had very diligently endeavoured to reclaim him; but his arguments and expostulations had no effect. One experiment, however, remained to be tried.—When he found his life near its end, he directed the young lord to be called; and when he desired with great tenderness, to hear his injunctions, told him, "I have sent for you that you may see how a Christian can die." What effect this awful scene had on the earl's behaviour is not known; he died himself in a short time.

This delightlul writer always employed wit on the side of virtue and religion. He dissipated the prejudice that had long connected gaiety with vice, and easiness of manners with laxity of principles. He restored virtue to its dignity, and taught innocence not to be ashamed. This is an elevation of literary character, "above all Greek, above all Roman fame." No greater felicity can genius attain, than that of having purified

intellectual pleasure, separating mirth from indecency, and wit from licentiousness; of having taught a succession of writers to bring elegance and gaiety to the aid of goodness. As a delineator of life and manners, Mr. Addison must be allowed to stand the first in the first rank. His humour, which as Steele observes, is peculiar to himself, is so happily diffused, as to give the the grace of novelty to domestic scenes and daily occurrences. He never "outsteps the modesty of nature," nor raises merriment or wonder by the violation of truth.

CHAP. XII.

DUKE OF MARLBOROUUGH.

Born 1650. Died 1722.

From 2 Charles II, to 8 George I.

JOHN CHURCHILL, duke of Marlborough, the eldest son of a Devonshire baronet, was born on Midsummer-day, in 1650. A clergyman in the neighbourhood instructed him in the first principles of literature; but his father, having other views than what a learned education afforded, carried him early to court, where he was particularly noticed by James, duke of York, when he was no more than 12 years of age. He had a pair of colours given him in the gaurds, during the first Dutch war in 1666.

In 1672, the duke of Monmouth, commanding a body of English auxiliaries in the service of France, Churchill attended him, and was soon after made a captain of grenadiers in his grace's own regiment. He had a share in all the actions of that famous campaign against the Dutch; and at the seige of Nimeguen, distinguished himself so much, that he was particularly

taken notice of by the celebrated marshal Turenne. He shone out also with so much eclat at the reduction of Maestricht, that the French king thanked him for his behaviour at the head of the line, and assured him he would accquaint his sovereign of it, which he did; and the duke of Monmouth, on his return to England, told the king his father how much he had been indebted to the bravery of captain Churchill.

The laurels he brought from France were sure to gain him preferment at home; accordingly the king made him a lieutenant-colonel, and the duke made him gentleman of his bed-chamber, and soon after master of the robes.

In 1685, he assisted at the coronation of James II. and was created a peer of England by the title of baron Churchill. During this unhappy reign, he very prudently declined meddling much in business, spoke little, except when his advice was asked, and then always recommended moderate measures. He declared very early to lord Galway, that if his master attempted to overturn the established religion, he would not support him.

The prince and princess of Orange being declared king and queen of England, lord Churchill was sworn of their privy-council, and raised to the dignity of earl of Marlborough, in the county of Wilts. Not long after, he was made commander in chief of the English forces sent over to Holland. He presided at the battle of Walcours, and gave such extrordinary proofs of his skill, that prince Waldeck, speaking in his commendation to the king, declared, that "he saw more into the art of war in a day, than some generals in many years." In 1698, king William

appointed him governor to the duke of Gloucester, with this extraordinary compliment, "*My lord, make him but what you are, and my nephew will be all I wish to see him.*"

During the reign of queen Anne, the honour of the British arms was carried to an amazing height, particularly by Marlborough, who excelled both as a general and a statesman. No sooner was he placed at the head of the English army abroad, than his genius and activity were soon conspicuous, and he became as much the favourite of the Dutch, as his wife was of the queen. In the course of the war the pride of France was humbled, and several glorious victories were obtained by the earl, who was soon made duke of Marlborough. Those of Blenheim and Ramilies, gave the first effectual check to the French power. By that of Blenheim, in 1704, the empire of Germany was saved from immediate destruction. Though prince Eugene was that day joined in command with the duke, yet the glory of the day was confessedly owing to the latter. The French general Tallard, was taken prisoner, and sent to England; and 20,000 French and Bavarians were killed, wounded, or drowned in the Danube, besides about 30,000 who were taken, and a proportionable number of cannon, artillery, and trophies of war. The battle of Ramilies, in 1706, was fought and gained under the duke of Marlborough alone. The loss of the enemy there has been variously reported; it is generally supposed to have been 8000 killed or wounded, and 6000 taken prisoners; but the consequence shewed its importance.

The house of commons now addressed the queen for leave to bring in a bill to settle the duke's honours

upon the male and female issue of his daughters. This was granted, and Blenheim-house, with the manor of Woodstock, was, after the decease of the duchess, on whom they were settled in jointure, entailed in the same manner with the honours.

Some time after this, the queen's affections were alienated from the duchess of Marlborough, and the whig administration. Her friends lost their places, which were supplied by tories, and even the command of the army was taken from the duke of Marlborough in 1712, and given to the duke of Ormond, who produced orders for a cessation of arms, but they were disregarded by the queen's allies in the British pay. And, indeed, the removal of the duke of Marlborough from the command of the army, while the war continued, was an act of the greatest imprudence, and excited the astonishment of all Europe. So numerous had been his successes, and so great his reputation, that his very name was almost equivalent to an army.

After the duke was dismissed from all his employments, a prosecution was commenced against him by the attorney-general, for applying public money to his private use; and the workmen employed in building Blenheim-house, though set at work by the crown, were encouraged to sue him for the money that was due to them. All his actions were also shamefully misrepresented. This unkind treatment induced him to go into voluntary exile. Accordingly, he embarked at Dover on the 14th of November, 1712, and landing at Ostend, went to Antwerp, and so to Aix-la-Chapelle, being every where received with the honours due to his high rank and merit.

On the arrival of George I. however, he was par-

ticularly distinguished by acts of royal favour; for he was again declared captain-general and commander in chief of all his majesty's land forces, colonel of the first regiment of foot gaurds, and master of the ordnance. His death happened on the 16th of June, 1722, in the 73d year of his age, and his corpse was interred, with the highest solemnity, in Westminster-abbey.

CHAP. XIII.

SIR ISAAC NEWTON.

Born 1642. Died 1727.

From 17 Charles I, to 12 George I.

THIS celebrated philosopher and mathematician, was born in Lincolnshire, on Christmas-day, 1642. He lost his father in his infancy; so that the care of his education fell to his mother, who, at 12 years of age, sent him to the grammar-school at Grantham; and after some years spent there, took him home, with the view of introducing him into country business, that he might sooner be able to manage his own estate himself. But, finding him stick close to his books, without any turn to business, she resolved not to cross his inclination, and sent him back to Grantham, where he stayed till he was eighteen years of age, when he removed to Trinity-college, in Cambridge, in 1660. He had not been long at the university, when he turned his thoughts to the mathematics.

In this study he set out in the usual method, and first took up Euclid. He understood the several demonstrations at the first reading, and a cast of his eye upon the contents of the theorems, was sufficient to make

him master of them. Some years after, he procured a glass prism, in order to try the phænomena of colours. He was much pleased at first with the vivid brightness of the colours produced by this experiment; but, after a while, applying himself to consider them in a philosophical way, with that circumspection which was natural to him, he became immediately surprised to see them in an oblong form, which, according to the received rule of refractions, ought to be circular. At first he thought the irregularity might possibly be no more than accidental; but this was what he could not leave without further inquiry: accordingly, he soon invented an infallible method of deciding the question, and the result was, his "New Theory of Light and Colours."

However, the theory alone, unexpected and surprising as it was, did not satisfy him; he rather considered the proper use that might be made of it for improving telescopes, which was his first design. To this end, having now discovered that light was not homogeneous, but an heterogeneous mixture of different refrangible rays, he computed the errors arising from this different refrangibility. He was now sensible that optical instruments might be brought to any degree of perfection desired, in case there could be found a reflecting substance which would polish as finely as glass, and reflect as much light as glass transmits.

Amidst these thoughts, he was forced from Cambridge, in 1665, by the plague; and it was more than two years before he made any further progress. However, he was far from passing the time idly in the country; on the contrary, it was here, at this time, that he first started the hint that gave rise to the system

of the world, which is the main subject of his "Principia." He was sitting alone in the garden, when some apples falling from a tree, led his thoughts upon the subject of gravity; and reflecting upon the power of that principle, he began to consider, that, as this power is not found to be sensibly diminished at the remotest distance from the centre of the earth, to which we can rise, neither at the tops of the loftiest buildings, nor on the summit of the highest mountains, it appeared to him reasonable to conclude, that this power must extend much farther than is usually thought. "Why not as high as the moon?" said he to himself; "and, if so, her motion must be influenced by it." By arguing in this manner, he inferred, that, if the moon be retained in her orbit by the force of gravity, no doubt the primary planets are carried about the sun by the like power; and by comparing the periods of the several planets with their distances from the sun, he found, that, if any power like gravity held them in their courses, its strength must decrease in the duplicate proportion of increase of distance. This he concluded, by supposing them to move in perfect circles, concentric to the sun, from which the orbits of the greatest part of them do not much differ. Supposing, therefore, the power of gravity, when extended to the moon, to decrease in the same manner, he computed whether that force would be sufficient to keep the moon in her orbit.

This great philosopher died on the 20th of March, 1727, in the 85th year of his age. His corpse lay in state in the Jerusalem-chamber, and on the 28th was conveyed into Westminster-abbey, the lord-chancellor, the duke of Montrose and Roxburgh, and the earls of

Pembroke, Sussex, and Macclesfield, holding up the pall. He was interred near the entrance into the choir, on the left hand, where a stately monument is erected to his memory, with an inscription upon it, drawn up with the most consummate elegance.

Sir Isaac Newton was of a very meek disposition, and a great lover of peace; he would rather have chosen to remain in obscurity, than to have the calm of life ruffled by those storms and disputes which genius and learning always draw upon those who are too eminent for them. In contemplating his genius, it presently becomes a doubt, which of these endowments had the greatest share, sagacity, penetration, strength, or diligence; and, after all, the mark that seems most to distinguish it is, that he himself made the justest estimation of it, declaring, that, if he had done the world any service, it was due to nothing but industry and patient thought; that he kept the subject under consideration constantly before him, and waited till the first dawning opened gradually, by little and little, into a full and clear light. And hence, no doubt, arose that unusual kind of horror which he had for all disputes; a steady unbroken attention, free from those frequent recoilings inseparably incident to others, was his peculiar felicity; he knew it, and he knew the value of it. No wonder, then, that controversy was looked on as his bane, when some objections, hastily made to his discoveries concerning light and colours, induced him to lay aside the design he had of publishing his optical lectures. We find him reflecting upon that dispute to which he was unavoidably drawn, in these terms: "I blamed my own imprudence for part-

ing with so real a blessing as my quiet, to run after a shadow."

With regard to his person, he was of a middling stature, and somewhat inclined to be fat in the latter part of his life. His countenance was pleasing and venerable. He never made use of spectacles, and lost but one tooth during his whole life.

His works were collected, in 1784, with a valuable commentary, in five handsome quarto volumes, by the Rev. Dr. Horsley, now bishop of St. Asaph.

CHAP. XIV.

SIR ROBERT WALPOLE, EARL OF ORFORD.

Born 1674. Died 1745.

From 22 Charles II, to 18 George I.

THERE must surely be some latent fascination, in power, "to vulgar souls unknown;" else, where is the man who would be ambitious to support the office of prime minister for the space of 20 years; harassed by its duties, absorbed in political intrigues, exposed to the malignity of opponents, and often traduced by his country for, perhaps, really prudent and meritorious services.

Sir Robert Walpole, afterwards earl of Orford, was born at Houghton, in Norfolk, 1674. In 1700 he was chosen member of parliament for King's Lynn, which he represented in several succeeding parliaments. In 1705 he was made secretary at war, and in 1709 treasurer of the navy. Upon the change of ministry, he was removed from all his places; and in 1711 the Commons voted him guilty of notorious corruptions in

his office of secretary at war, and resolved that he should be committed to the Tower, and expelled the house. The Whigs, however, espoused his cause, and by their influence had him re-chosen for the borough of Lynn. The house declared his election void; but his constituents and friends persisted in their choice, and he sat in the next parliament. He was appointed paymaster-general of the forces, and a privy-counsellor, on the accession of George I. but in two years after he resigned, and opposed the ministry; and in two years was again made paymaster. Soon after this he rose to a power no minister had ever attained, holding the united offices of chancellor of the exchequer and first lord of the treasury. From his conduct in these situations, he has been called the father of corruption; and is said to have boasted that he knew every man's price. He was either mistaken in his assertion, or he had not the means of purchasing, as it appeared soon after; for in 1742 the opposition prevailed over him, and he was compelled to resign all his places. To screen him from all further resentment of the Commons he was created earl of Orford, and gratified with a pension of 4000l. a year.

The people, however, continued loud in their cry for vengeance; and an ineffectual attempt was made next session of parliament, to revive the proceedings against him. At last the ferment subsided: and Orford retired to domestic privacy and peace, which from the serenity of his natural temper, he seemed eminently qualified to enjoy. Whatever objections may have been alledged against his ministerial conduct, his private character was universally allowed to be replete

with amiable and benevolent qualities. He was the fond indulgent parent, the kind master, the beneficent patron, the firm friend, and the agreeable companion.

It was impossible not to love the man, however the premier might be censured and reprobated; and yet we do not conceive that he was more culpable in his public character, than many other great men, who have since steered the vessel of state.

The compliment which Pope pays this celebrated statesman in reply to one of his friends, who bids him go and see sir Robert, will be more durable than the monumental brass, and shews his estimable private worth:

> Seen him I have, but in his happier hour
> Of social pleasure, ill exchang'd for pow'r;
> Seen him uncumber'd with the venal tribe,
> Smile without art, and win without a bribe.

Lord Orford did not long survive his resignation. He died in 1745. Mankind in general look forward to the calm of declining life with complacency and satisfaction; but the ambitious mind, inured to the bustle of business or intrigue, is seldom happy in the shade. The creatures of habit, we pine for the gratifications which we have lost; and at the close of our days we find it too late to form new connections, and to cater for new pursuits. When life is once planned into method, and established in principle, every deviation gives us pain, and every change, however much it may flatter in prospect, is sure to disappoint us in possession. Happy is he who can early sit down content, nor ever heaves a sigh for change!

Sir Robert wrote several political pamphlets in the early part of his life. In the latter part of it he had too many venal pens at his command to need the use of his own.

CHAP. XV.

GENERAL WOLFE.

Born 1726. Killed 1759.

From 12 George I, to 32 George II.

MAJOR GENERAL JAMES WOLFE, was the son of lieutenant general Edward Wolfe, and was born at Westerham, in the county of Kent, on the 11th of January, 1726. He seemed by nature formed for military greatness. His memory was retentive, his judgment deep, and his apprehension amazingly quick and clear. His constitutional courage was not only uniform and daring, perhaps to an extreme, but he possessed that higher species of it, that strength, steadiness, and activity of mind, which no difficulties could obstruct, or dangers deter. With an universal liveliness, almost to impetuosity of temper, he was not subject to passion; with the greatest independence of spirit, free from pride. Generous, almost to profusion, he contemned every little art for the acquisition of wealth; whilst he searched after objects for his charity and benevolence, the deserving soldier never went unrewarded, and even the needy inferior officers frequently tasted of his bounty. Constant and distinguishing in his attachments, manly and unreserved, yet gentle, kind, and conciliating in his manners, he enjoyed a large share of the friendship, and almost the universal good-

will of mankind. And to crown all, sincerity and candour, a true sense of honour, justice, and public liberty, seemed the inherent principles of his nature, and the uniform rule of his conduct.

He betook himself when very young to the profession of arms; and with such talents, joined to the most unwearied assiduity, no wonder he was soon singled out as a most rising military genius Even so early as the battle of Lafeldt, when scarcely 20, he exerted himself in so masterly a manner, at a very critical juncture, that it drew the highest encomiums from the great officers then at the head of the army. During the whole war, he went on, without interruption, forming his military character; was present at every engagement, and never passed undistinguished. Even after the peace, whilst others lolled on pleasure's downy lap, he was cultivating the arts of war. He introduced (without one act of inhumanity) such regularity and exactness of discipline into his corps, that, as long as the six British battalions on the plains of Minden, are recorded in the annals of Europe, so long will Kinsley's stand among the foremost of that day.

Of that regiment he continued lieutenant colonel, till the great minister, who roused the sleeping genius of his country, called him forth into higher spheres of action. He was early in the most secret consultation for the attack upon Rochfort; and what he would have done there, and what he afterwards did at Louisbourg, are very well known to the world.

He was scarcely returned thence, when he was appointed to command the important expedition against Quebec. There his abilities shone out in their brightest lustre; in spite of many unforeseen difficulties, from

the nature of the situation, from great superiority of numbers, the strength of the place itself, and his own bad state of health, he persevered with unwearied diligence, practising every stratagem of war to effect his purpose. At last, singly, and alone in opinion, he formed and executed that great, that dangerous, yet necessary plan, which drew out the French to their defeat, and will for ever denominate him the conqueror of Canada. But here tears will flow; for, when he was within the grasp of victory, he first received a ball through his wrist, which immediately wrapping up, he went on, with the same alacrity, animating his troops by precept and example: he next received a shot in the groin, which he also concealed. Even after the mortal bullet had pierced his breast, he suffered himself unwillingly to be carried behind the ranks. Under all the agonies of approaching dissolution, his anxiety for the fortune of the field continued; and when told that the French army was totally routed, and fled on all sides, "Then," said he, "I am happy!" and instantly expired in a kind of patriotic transport, which seemed to diffuse over his darkening countenance, an air of exultation and triumph. His death happened on the 13th of Sept. 1759, in the 33d year of his age.

To all the qualities of a hero, general Wolfe united those which constitute the great commander. He needed only years, and opportunity of action, to place him on a level with the most celebrated general of any age or nation; to moderate his ardour, expand his faculties, and give to his intuitive perception and scientific knowledge, the correctness of judgment perfected by experience.

CHAP. XVI.

CAPTAIN COOK.

Born 1728. Killed 1779.

From 1 George II, to 19 George III.

CAPTAIN JAMES COOK, was born at Marton, in Cleveland, in the county of York, on the 3d of November, 1728. His father, who was a day-labourer, bound him apprentice at the age of 17, to William Saunderson, for four years, to learn the grocery and haberdashery business, at Snaith, a populous fishing-town, about 10 miles from Whitby; but after a year and a half's servitude, having contracted a very strong propensity to the sea, Mr. Saunderson was willing to indulge him in following the bent of his inclination, and gave up his indentures. While he continued at Snaith, by Mr. Saunderson's account, he discovered much solidity of judgment, and was remarkably quick at accounts. In July, 1746, he was bound apprentice to Mr. J. Walker, of Whitby, for the term of three years, which time he served to his master's full satisfaction.

Early in the year 1752, Mr. Walker sent for him, and made him mate of one of his vessels, called the Friendship, about 400 tons burden. In this station he continued till May or June, 1753, in the coal trade. At that period, Mr. Walker made him an offer to go as commander of that ship, but he declined it; soon after he left her at London, and entered on board his majesty's ship Eagle, a frigate of 28 or 30 guns, "having a mind (as he expressed himself to his master) "to try his fortune that way."

He received his commission as lieutenant, on the 1st day of April, 1760; and soon after gave a specimen of those abilities which recommended him to the commands which he executed so highly to his credit, that his name will go down to posterity as one of the most skilful navigators which this country has produced.

To a perfect knowledge of all the duties belonging to a sea life, Mr. Cook had added a great skill in astronomy. In the year 1767, the Royal Society resolved, that it would be proper to send persons into some parts of the South Seas, to observe the transit of the planet Venus over the sun's disk, and by a memorial delivered to his majesty, they recommended the islands of Marquesas de Mendoza, or those of Rotterdam, or Amsterdam, as the properest place then known for making such observations. To this memorial a favourable answer was returned; and the Endeavour, a ship built for the coal-trade, was put in commission, and the command of her given to lieutenant Cook. But before the vessel was ready to sail, captain Wallis returned from his voyage, and pointed out Otaheité as a place more proper for the purpose of the expedition, than either of those mentioned by the Royal Society. This alteration was approved of, and our navigator was appointed by that learned body, with Mr. Charles Green, to observe the transit.

On this occasion, lieut. Cook was promoted to be captain. He immediately hoisted the pendant, and took command of the ship, in which he sailed down the river on the 30th of July, 1768. In this voyage he was accompanied by Joseph Banks, Esq. since sir Joseph Banks, bart. knight of the Bath, and president of the

Royal Society, and Dr. Solander. On the 13th of October, he arrived at Rio de Janeiro, and, on the 13th of April, 1769, came to Otaheité, where the transit of Venus was observed in different parts of the island. He staid there till the 13th of July, after which he went in search of several islands, which he discovered. He then proceeded to New Zealand, and, on the 12th of October, 1770, arrived at Batavia, with a vessel almost worn out, and the crew very sickly. He reached the Cape of Good Hope on the 15th of March, 1771, anchored at St. Helena on the 1st of May, from whence he sailed on the 4th, and came to anchor in the Downs on the 12th of June, after having been absent almost three years; and in that time had experienced every danger to which a voyage of such length is incident, and in which he had made discoveries equal to those of all the navigators of his country from the time of Columbus to the present.

Soon after captain Cook's return to England, it was resolved to equip two ships to complete the discovery of the southern hemisphere. It had long been a prevailing idea, that the unexplored part contained another continent. To ascertain the fact, was the principal object of this expedition; and that nothing might be omitted that could tend to facilitate the enterprize, two ships were provided, furnished with every necessary which could promote the success of the undertaking. The first of these ships was called the Resolution, under the command of captain Cook; the other the Adventure, commanded by captain Furneaux. Both of them sailed from Deptford on the 9th of April, 1772, and arrived at the Cape of Good Hope on the 30th of October. They departed from thence on the

22d of November, and from that time until the 17th of January, 1773, continued to discover the continent, when they were obliged to relinquish the design, observing the whole sea covered with ice, from the direction of S. E. round by the south to west. They then proceeded into the South Seas, and made many other discoveries, and returned to the Cape of Good Hope on the 21st of March, 1774, and from thence to England on the 14th of July; having during three years and eighteen days (in which time the voyage was performed) lost but one man by sickness, in capt. Cook's ship, although he had navigated throughout all the climates from 52 degrees north, to 71 degrees south, with a company of 118 men.

The want of success which attended captain Cook's attempt to discover a southern continent, did not discourage another plan being resolved on, which had been recommended some time before. This was no other than the finding out a northern passage, which the project of some chimerical projectors had conceived to be a practicable scheme. The dangers which our navigator had twice braved and escaped from, would have exempted him from being solicited a third time to venture his person in unknown countries, amongst desert islands, inhospitable climates, and in the midst of savages; but, on his opinion being asked concerning the person who would be most proper to execute this design, he once more relinquished the quiets and comforts of domestic life, to engage in scenes of turbulence and confusion, of difficulty and danger. His intrepid spirit, and inquisitive mind, induced him again to offer his services, and they were

accepted without hesitation. The manner in which he had deported himself on former occasions, left no room to suppose a fitter man could be selected. He prepared for his departure with the utmost alacrity, and actually sailed in the month of July, 1776.

A few months after his departure from England, notwithstanding he was then absent, the Royal Society voted him sir Godfrey Copley's gold medal, as a reward for the account which he had transmitted to that body, of the method taken to preserve the health of the crew of the ship; and sir John Pringle, in an oration pronounced on the 30th of November, observed, "how meritorious that person must appear, who had not only made the most extensive, but the most instructive voyages; who had not only discovered, but had surveyed vast tracts of new coast; who had dispelled the illusion of a *terra australis incognita*, and had fixed the bounds of the habitable earth as well as those of the navigable ocean in the southern hemisphere; but that, however ample a field for praise these circumstances would afford, it was a noble motive that had prompted the society to notice captain Cook in the honourable manner which had occasioned his then address." After descanting on the means used on the voyage, to preserve the lives of the sailors, he concluded his discourse in these terms: "Allow me then, gentlemen, to deliver this medal, with his unperishing name engraven upon it, into the hands of one who will be happy to receive that trust, and to hear that this respectable body never more cordially, nor more meritoriously, bestowed that faithful symbol of their esteem and affection. For if Rome decreed the civic crown to him who saved the life of a single citizen, what wreaths are due to that

man who, having himself saved many, perpetuates in your transactions the means by which Britain may now, on the most distant voyages, save numbers of her intrepid sons, her mariners, who, braving every danger, have so liberally contributed to the fame, to the opulence, and to the maritime empire of this country?"

It will give pain to every sensible mind, to reflect, that this honourable testimony to the merit of our gallant commander never came to his knowledge. While his friends were waiting with the most earnest solicitude for tidings concerning him, and the whole nation expressed an anxious impatience to be informed of his success, advice was received from capt. Clerke, that capt. Cook was killed in an affray with the natives, by an act of sudden resentment and fear, rather than from a bad disposition, on the island of O, why, ee, the largest of the Sandwich isles, on the 14th of February, 1779; and his death was universally regretted, not only in Great Britain, but also in other parts of Europe, by those to whom his merits and public services were known.

Capt. Cook was a married man, and left several children behind him. On each of these, his majesty settled a pension of 25l. per ann. and 200l. per ann. on his widow. It is remarkable, if true, as reported, that capt. Cook was godfather to his wife; and at the very time she was christened, declared, that he had determined on the union which afterwards took place between them.

To what we have already said of this circumnavigator, we shall add some extracts from the account given of his life and public services, by capt. King. "He was engaged in most of the busy and active

scenes in North America; yet he found time to read Euclid, and supply the deficiencies of an early education. Sir Charles Saunders, at the siege of Quebec, committed to his care services of the first importance. Lord Colville and sir Charles both patronized him, and by their recommendation he was appointed to survey the gulph of St. Lawrence, and the coast of Newfoundland. The constitution of his body was robust, inured to labour, and capable of undergoing the severest hardships. His stomach bore, without difficulty, the coarsest and most ungrateful food. Indeed, temperance in him was scarcely a virtue, so great was the indifference with which he submitted to every kind of self-denial. The qualities of his mind were of the same hardy vigorous kind with those of his body. His courage was cool and determined, and accompanied with an admirable presence of mind in the moment of danger. His manners were plain and unaffected. His temper might, perhaps, have been justly blameable, as subject to hastiness and passion, had not these been disarmed by a disposition the most benevolent and humane."

Such were the outlines of captain Cook's character; but its most distinguishing feature was that unremitted perseverance in the pursuit of his object, which was not only superior to the opposition of dangers, and the pressure of hardships, but even exempt from the want of ordinary relaxation. Perhaps no science ever received greater accessions from the labours of a single man, than geography has done from those of capt. Cook. In his first voyage to the South Seas, he discovered the Society islands, determined the insularity of New Zealand, discovered the straits which separate the two islands, and are called after his name, and

made a complete survey of both. He afterwards explored the eastern coast of New Holland, hitherto unknown, an extent of upwards of 2000 miles. In his second expedition, he resolved the great problem of a southern continent, having traversed that hemisphere in such a manner as not to leave a possibility of its existence, unless near the pole, and out of the reach of navigation. During this voyage he discovered New Caledonia, the largest island in the southern Pacific, except New Zealand; the island of Georgia; and an unknown coast which he named Sandwich Land, the Thulé of the southern hemisphere; and, having twice visited the tropical seas, he settled the situations of the old, and made several new discoveries. But the last voyage is distinguished above all the rest, by the extent and importance of its discoveries. Besides several smaller islands in the southern Pacific, he discovered, to the north of the equinoctial line, the group called the Sandwich islands, which, from their situation and production, bid fairer for becoming an object of consequence in the system of European navigation, than any other discovery in the South Sea. He afterwards explored what had hitherto remained unknown of the western coast of America, containing an extent of 3500 miles; ascertained the proximity of the two great continents of Asia and America, passed the straits between them, and surveyed the coast on each side, to such a height of northern latitude, as to demonstrate the impracticability of a passage in that hemisphere, from the Atlantic to the Pacific Ocean, either by an eastern or a western course. In short, if we except the sea of Amur, and the Japanese Archipelago, which still remain imperfectly known to Europeans, he has com-

pleted the hydrography of the habitable globe." Capt. King concludes his account of this extraordinary man, whose death cannot be sufficiently lamented, in the following words: "Having given the most faithful account I have been able to collect, both from my own observation and the relation of others, of the death of my ever-honoured friend, and also of his character and services, I shall now leave his memory to the gratitude and admiration of posterity, accepting, with a melancholy satisfaction, the honour which the loss of his has procured me, of seeing my name joined to his; and of testifying that affection and respect for his memory, which, whilst he lived, it was no less my inclination than my constant study to shew him."

CHAP. XVII.

HOWARD, THE PHILANTHROPIST.

Born 1726. Died 1790.

From 12 George I, to 30 George III.

MR. JOHN HOWARD, the indefatigable friend of the poor and unfortunate, was born at Hackney, in the year 1726. His father, who kept a carpet warehouse in Long-lane, Smithfield, dying while he was very young, left him to the care of guardians, by whom he was apprenticed to a wholesale grocer in the city of London. His constitution appearing too weak for attention to trade, aud his father having left him, and an only sister, in circumstances which placed them above the necessity of pursuing it, he bought out the remainder of his indentures before the time, and took a tour in France and Italy. On his return, he lodged a-

the house of a Mrs. Lardeau, a widow, in Stoke-Newington, where he was so carefully attended by that lady, that though she was many years older than himself, he formed an attachment to her, and, in 1752, made her his wife. She was possessed of a small fortune, which he generously presented to her sister. She lived, however, only three years after their union, and he was a sincere mourner for her loss. About this time he became a fellow of the Royal Society, and, in 1756, being desirous to view the state of Lisbon, after the dreadful earthquake, he embarked for that city. In this voyage, the Hanover frigate, in which he sailed, was taken by a French privateer; and the inconveniencies which he suffered during his subsequent confinement in France, are supposed to have awakened his sympathies with peculiar strength in favour of prisoners, and to have given rise to his plans for rendering prisons less pernicious to health. It is supposed, that after his release, he made the tour of Italy. On his return, he fixed himself at Brokenhurst, a retired and pleasant villa near Lymington, in the New Forest. Mr. Howard married a second time, in 1758; but this lady, a daughter of a Mr. Leeds, of Croxton, in Cambridgeshire, died in child-bed, of her only child, a son, in the year 1765. Either before, or soon after the death of his second wife, he left Lymington, and purchased an estate at Cardigan, near Bedford, adjoining to that of his relation, Mr. Whitbread. Here he much conciliated the poor, by giving them employment, building them cottages, and other acts of benevolence; and regularly attended the congregation of dissenters at Bedford, being of that persuasion. His time was also a good deal occupied by the education of

his only son, a task for which he is said to have been little qualified. With all his benevolence of heart, he is asserted to have been disposed to a rigid severity of discipline, arising probably from a very strict sense of rectitude, but not well calculated to form a tender mind to advantage. In 1773, he served the office of sheriff, which as he has said himself, "brought the distress of prisoners more immediately under his notice," and led to his benevolent design of visiting the gaols and other places of confinement throughout England, for the sake of procuring alleviation to the miseries of the sufferers. In 1774, trusting to his interest among the sectaries at Bedford, he offered himself as a candidate for that borough, but was not returned; and endeavouring to gain his seat by petition, was unsuccessful. He was, however, in the same year, examined before the House of Commons, on the subject of the prisons, and received the thanks of the house for his attention to them. Thus encouraged, he completed his inspection of the British prisons, and extended his views even to foreign countries. He travelled with this design, three times through France, four through Germany, five through Holland, twice through Italy, once in Spain and Portugal, and once also through the northern states and Turkey. These excursions were taken between the years 1775 and 1787. In the mean time his sister died, and left him a considerable property, which he regarded as the gift of Providence to promote his humane designs, and applied accordingly. He published also, in 1777, "The state of the prisons in England and Wales, with preliminary observations, and an account of some foreign prisons; dedicated to the House of Commons, in 4to." In 1780, he published an ap-

pendix to this book, with the narrative of his travels in Italy; and, in 1784, republished it, extending his account to many other countries. About this time, his benevolence had so much attracted the public attention, that a large subscription was made for the purpose of erecting a statue to his honour; but he was too modest and sincere to accept of such a tribute, and wrote himself to the subscribers to put a stop to it. "Have I not one friend in England," he said, when he first heard of the design, "that would put a stop to such a proceeding?" In 1789, he published, "An account of the principal lazarettos in Europe, with various papers relative to the plague; together with further observations on some foreign prisons and hospitals; and additional remarks on the present state of those in Great Britain and Ireland." He had published also, in 1780, a translation of a French account of the Bastille; and in 1789, the duke of Tuscany's new code of civil law, with an English translation.

In his book on lazarettos, he had announced his intention of revisiting Russia, Turkey, and some other countries, and extending his tour in the East. "I am not insensible," says he, "of the dangers that must attend such a journey. Trusting, however, in the protection of that kind Providence which has hitherto preserved me, I calmly and cheerfully commit myself to the disposal of unerring wisdom. Should it please God to cut off my life in the prosecution of this design, let not my conduct be uncandidly imputed to rashness or enthusiasm, but to a serious, deliberate conviction, that I am pursuing the path of duty; and to a sincere desire of being made an instrument of more extensive usefulness to my fellow-creatures, than could be expected in

the narrower circle of a retired life." He did actually fall a sacrifice to this design; for, in visiting a sick patient at Cherson, who had a malignant epidemic fever, he caught the distemper, and died, Jan. 20, 1790.

Mr. Howard was, in his own habits of life, rigidly temperate, and even abstemious: subsisting entirely, at one time, on potatoes; at another, chiefly on tea and bread and butter; of course, not mixing in convivial society, nor accepting invitations to public repasts. His labours have certainly had the admirable effect of drawing the attention of this country to the regulation of public prisons. In many places his improvements have been adopted; and, perhaps, in all goals some advantage has been derived from them. We may hope that these plans will terminate in such general regulations, as will make judicial confinement, instead of the means of confirming and increasing depravity (as it has been too generally) the successful instrument of amendment in morality, and acquiring habits of industry; while the few criminals, and probably very few, who may be too depraved for amendment, will be compelled to be beneficial to the community by their labour; and, being advantageously situated in point of health, may suffer nothing more than that restraint which is necessary for the sake of society, and that exertion which they ought never to have abandoned. Considered as the first mover of these important plans, Howard will always be honoured with the gratitude of his country; and his monument, lately erected in St. Paul's cathedral, is a proof that this gratitude is not inert. The monument is, at the same time, a noble proof of the skill and genius of the artist, Mr. Bacon,

and represents Mr. Howard in a Roman dress, with a look and attitude expressive of benevolence and activity, holding in one hand a scroll of plans for the improvement of prisons, hospitals, &c. and in the other a key, while he is trampling on chains and fetters. The epitaph is too long to be inserted, and contains, indeed, a sketch of his life; but concludes in words which we heartily adopt: "He trod an open, but unfrequented path, to immortality, in the ardent and unremitted exercise of Christian charity: may this tribute to his fame excite an emulation of his truly glorious atchievements."

CHAP. XVIII.

SIR RALPH ABERCROMBY, K. B.

Born about 1737. Died of his wounds in 1801.

From 10 George II, to 41 George III.

A GENERAL expiring in the arms of victory is entitled to the plaudits of his grateful countrymen, for whom he has sacrificed himself; and notwithstanding the cold observation of Plutarch, who reprehends those "who prefer their courage to all their other virtues, and throw away their lives as if their friends, allies, and country had no interest in them," it will be difficult to persuade mankind to think otherwise than with kindness of bravery, though, perhaps, carried beyond the bounds of prudence. Rashness is certainly not to be commended; but steady courage has a right to claim, and will always experience, respect and reverence.

The name of sir Ralph Abercromby will go down to posterity with that of Wolfe, and a higher praise can-

not be bestowed on any one than by being placed on a pedestal by the side of that distinguished hero.

Sir Ralph was a native of Scotland, and one of a large but not opulent, though an ancient and respectable family. His father had a number of children, and the sons were destined for active employments, in which some of them acquired both fame and wealth. The present subject of our consideration chose the military profession; and his first commission was that of cornet of the third dragoon guards, dated May 23, 1756. He obtained a lieutenancy in the same regiment on the 12th February, 1760, and continued in the corps until the 24th of April, 1762, when he obtained a company in the third regiment of horse. In this last regiment he rose to the rank of major and lieutenant colonel; to the former on the 6th of June, 1770, and to the latter May 19, 1773. In November, 1780, he was included in the list of brevet colonels; and on the 3d of the same month, in 1781, was made colonel of the 103d, or King's Irish infantry, a new raised regiment, but which being reduced at the peace of 1783, the colonel was placed on half-pay. On the 28th of November, 1787, he was promoted to the rank of major general; and on the 5th of November, 1795, he obtained the command of the 7th regiment of dragoons. He was employed on the Continent soon after the present war broke out, and enjoyed, on all occasions, the confidence and esteem of the duke of York. He commanded the advanced guards in the action on the heights of Cateau, in which he signalized himself in a manner to deserve the particular approbation of the duke of York. On the 27th of October following, he was wounded at Nimeguen, and con-

ducted the march of the guards from Deventer to Oldensaal, in the retreat of the British troops out of Holland in the winter of 1794. In August, 1795, he was appointed to succeed sir Charles Grey as commander in chief of the British forces in the West Indies. In March, 1796, he took Grenada, and afterwards obtained possession of Demerara, and Issiquibo. Soon after, St. Lucia, St. Vincent's, and Trinidad, were added to the British conquests. An unsuccessful attempt upon the Spanish island of Porto Rico concluded his campaign in the West Indies.

By the failure of this attempt, however, he lost none of his military reputation. On his return to Europe, he was, in reward for such important services, invested with the red ribbon, appointed to the command of the Scotch Greys, entrusted with the governments of the Isle of Wight, Fort St. George, and Fort Augustus, and on the 4th of February, 1797, raised to the rank of lieutenant general. He was next fixed upon to take the chief command of the forces in Ireland, in which situation he conducted himself with moderation and firmness. Soon afterwards he was employed under the duke of York in the enterprize against Holland, where it was confessed by the Dutch, French, and British officers, that even victory the most decisive could not have more conspicuously proved the talents of this active and intelligent general, than the conduct pursued by him in an arduous struggle against difficulties of the ground, the inclemency of the season, unavoidable delays, disorderly movements of the Russians, and the timid duplicity of the Dutch.

His last appointment was attended with the approbation of the public, which reposed confidence in the

wisdom, conduct, and bravery, which the general was known to possess. His friends, however, have to lament, that the expedition to Egypt so happily begun was not terminated by this gallant officer. He was mortally wounded near Alexandria, in the battle of the 21st of March, 1801, and died on the 28th of the same month. His remains were removed to Malta, and there interred, and his widow has been ennobled.

The private character of sir Ralph Abercromby was modest, disinterested, and upright. He was naturally reserved, and extremely silent in mixed society, but easy of access. In a word, he was a good son, brother, father, husband, and friend, as well as an able and heroic general.

"How sleep the brave, who sink to rest;
"By all their country's wishes blest!
"When Spring with dewy fingers cold,
"Returns to deck their hallow'd mould,
"She there shall dress a sweeter sod
"Than *Fancy's* feet have ever trod.
"By fairy hands their knell is rung;
"By forms unseen their dirge is sung;
"There *Honour* comes a *Pilgrim* grey
"To bless the turf that wraps their clay,
"And *Freedom* shall awhile repair
"To dwell a weeping *Hermit* there!" COLLINS.

On the subject of Biography, Plutarch's Lives, Biographia Britannica, the Biographical Dictionary, Campbell's Lives of the Admirals, Lives and Characters of Naval Officers, and Dr. Johnson's Lives of the Poets, will afford much instruction and amusement.

BOOK V.

MYTHOLOGY.

CHAP. I.

HISTORY OF THE HEATHEN DEITIES.

MYTHOLOGY is the religion of the Pagans, which consisted in the worship of false gods, whom their poets, painters, and statuaries imagined, and to whom they gave different attributes. It is the *basis* of history, the *standard* of criticism, and the *guide* to the studies of youth.

A knowledge of *feigned History*, or Mythology, is absolutely necessary to the reader of the *Classics*, to the *Painter*, and to the *Statuary**. We must not, therefore, overlook even the fictions of the more illustrious poets†.

CHAP. II.

OF COELUS AND TERRA, SATURN AND CYBELE.

CŒLUS is said to be the son of the *Air*, great father of the gods, and husband of *Terra*, the daughter of the Earth, by whom he had the Cyclops, Oceanus, Titan, the Hundred Giants, and many other children, the most eminent of which was *Saturn*, or *Time*.

This fable plainly signifies, that the Air and Earth were the common parent of all created beings. Cœlus was dethroned by his youngest son Saturn.

* Knox.

† Quintilian.

SATURN was the most ancient of all the gods. Titan, his elder brother, resigned his birth-right to him, on condition that he should destroy all his male issue, that the empire of the world might in time fall to his posterity. Saturn accepted of this condition; but Titan afterwards suspecting that his brother had broke the contract between them, made war against him, and kept him in prison, from whence he was released by his son Jupiter, and re-instated in his government. He was afterwards dethroned by Jupiter himself.

Saturn is represented as the emblem of *Time*, with a scythe in his hand; and, during his reign, it is said, was the golden age of the earth, when the ground yielded all sorts of fruits without culture, and *Astræa*, or *Justice*, dwelt among men, who lived together in perfect love and amity. He is said to have destroyed all his children, because *Time* devours all things.

CYBELE was the wife of Saturn, and accounted *mother* of the gods. She hath her head crowned with towers, and is the goddess of cities, garrisons, and all things that the earth sustains.

In her hand she carries a key, because in winter the earth *locks* up her treasures, which in the spring she *unlooses*, brings forth, and dispenses with a plentiful hand.

She is seated in a chariot, because the earth hangs in the air, being poised by its own weight. Her garments were painted with flowers of various colours, and figured with images of several creatures; which needs no explanation, since every one knows, that such a dress is suitable to the earth.

CHAP. III.

OF JUPITER AND JUNO.

JUPITER, the son of *Saturn* and *Cybele*, or *Ops*, is the father and king of gods and men. He is represented sitting on a throne of ivory and gold, holding thunder in his right hand, and in the left a sceptre made of cypress; which wood, being free from corruption, is a symbol of eternal empire.

He was born, and educated, upon *Ida*, a mountain in Crete. Some say, he was nursed by the *Nymphs*, and others, that he was fed by the *bees*, with honey.

Jupiter, after he had deposed his father *Saturn* from the throne, and expelled him the kingdom, divided the paternal inheritance with his two brothers, *Neptune* and *Pluto*. He so obliged and assisted mankind by great favours, that he not only got the title of Jupiter, but also obtained divine honours, and was esteemed the common father of gods and men.

Jupiter is stiled *Optimus Maximus*, from his power and willingness to do good to all men. He is also named *Olympius* from *Olympus*, or the heaven, wherein he resides.

JUNO, the queen of heaven, both the sister and wife of Jupiter, was born in the island of *Samos*, where she lived while she continued a virgin.

She is represented in a chariot drawn by peacocks, with a sceptre in her right hand, and a crown on her head. She was mother of Vulcan, Mars, and Hebe.

Iris was her servant and peculiar messenger. Because of her swiftness she is painted with wings, sitting

on a rainbow. It was her office to unloose the souls of dying women from the chains of the body.

CHAP. IV.

OF APOLLO AND SOL.

APOLLO is described as a beardless youth, with long hair, crowned with laurel, and shining in an embroidered vestment; holding a bow and arrows in his right hand, and a harp in the left. Sometimes he is seen with a shield on the one hand, and the Graces in the other.

He was the son of Jupiter and Latona. By the invention of physic, music, poetry, and rhetoric, he deservedly presided over the *Muses*.

He destroyed all the *Cyclops*, the forgers of Jupiter's thunder-bolts, with his arrows, to revenge the death of his son Æsculapius, whom Jupiter had killed with his thunder, because, by the power of physic, he restored the dead to life again.

Daphne, so famous for her modesty, was changed into a laurel, whilst Apollo, who passionately admired her, was using his utmost efforts to obtain her. The laurel is the most chaste of trees, which is never corrupted with the violence of heat or cold, but remains always flourishing, always pure.

Apollo raised the walls of the city of *Troy*, by the music of his *harp* alone.

He is called *Cynthius* from the mountain *Cynthus*, in the island of Delos; from whence Diana is also called Cynthia. He is also called *Delius*, from the same island, because he was born there.

He is called Delphicus from the city Delphi, in

Bœotia, where he had the most famous temple in the world. They say that this famous Oracle became dumb, at the birth of our *Saviour*; and when Augustus desired to know the reason of its silence, the Oracle answered him, that in Judea, a child was born, who was the *Son of God*, and had commanded him to depart, and return no more answers.

From his exact skill in hunting he is called *Pæan*, and armed with arrows. From the swiftness of his motion, he is called Phœbus.

Sol, who enlightened the world, is esteemed the same as *Apollo*. He was the father of *Phaeton* by *Clymene*; and, as a proof of his paternal affection, promised to grant his son whatever he should request. The rash youth asked the guidance of his chariot for one day. *Sol*, in vain, used every argument to dissuade him from the enterprize; but, having sworn by the river *Styx*, an oath which it was unlawful for the gods to violate, he unwillingly granted his request, and gave him the necessary instructions for his behaviour.

Phaeton, transported with joy, mounted the chariot, and began to lash the flaming steeds; but they, finding the ignorance of their new driver, ran through the air, and set heaven and earth on fire. Jupiter, to prevent a total conflagration, struck Phaeton with thunder from his chariot, and plunged him into the river *Po*. His sisters, Phæthusa, Lampetia, and Phœbe, and also Cycnus, his friend, immoderately bewailed his death on the banks of the river; and by the pity of the gods, his sisters were changed into poplar-trees, and his friend Cycnus into a swan.

CHAP. V.

OF MERCURY.

MERCURY, son of *Jupiter* and *Maia*, daughter of *Atlas*, was the god of eloquence and merchandize, and messenger of the gods.

He is represented as a young man, with chearful countenance, an honest look and lively eyes; fair, without paint, with winged shoes and hat, and holding in his hand a winged rod, bound about with two serpents.

He had many remarkable qualities, on account of which they worshipped him as a god. He is said to have invented letters and the use of them. He excelled in eloquence and the faculty of speaking; and therefore was accounted the god of rhetoric and oratory.

In the art of thieving he far exceeded all the sharpers that ever have been, and is, therefore, named the *Prince* of tricking. The very day on which he was born, he stole away the cows of King Admetus, though attended by Apollo himself; who, while he complained of the theft, and bent his bow with an intent of revenge, found himself robbed of his quiver and arrows also.

He was a wonderful master at making peace, and pacified not only mortals, but also the gods themselves, when they quarrelled. This faculty is signified by the rod which he holds in his hand.

His chief offices were, to carry the commands of Jupiter, to attend persons when dying, to unloose their souls from the chains of the body, and usher them into the world of spirits; likewise to revive, and replace into new bodies, those that had already completed their time in the *Elysian* fields.

CHAP. VI.

OF MARS AND BACCHUS.

MARS was the son of Jupiter and Juno. He is the god of armies and war, fierce in aspect, stern in countenance, and terrible in dress. He sits in a chariot drawn by two horses, which are driven by a distracted woman. He is covered with armour, and brandishes a spear in his right hand. Sometimes he is represented sitting on horseback, formidable with his whip and spear, with a cock at his feet, the emblem of watchfulness.

His servants are *Fear* and *Terror*. *Discord* also goes before in a tattered garment, and *Clamour* and *Anger* follow him.

Bellona, goddess of war, is the companion and wife of Mars. She prepares for him his chariot and horses when he goes to battle.

BACCHUS, the son of *Jupiter* and *Semele*, as soon as he was born, was committed to the care of *Silenus* and the *Nymphs* to be brought up; and, in reward for their service, the Nymphs were received into heaven, and there changed into stars, called the *Hyades*.

Bacchus has a red face, swoln cheeks, and prominent belly. He appears dispirited with luxury, and intoxicated with wine. He is crowned with ivy and vine-leaves, and in his hand holds a *thyrsus* for a sceptre. His chariot is drawn sometimes by tigers and lions, sometimes by lynxes and panthers. A drunken band of *Satyrs*, *Demons*, and *Nymphs*, presiding over the wine-presses, fairies of the fountains, and priestesses, attend him as his guard, and old *Silenus*, riding on an ass, brings up the rear.

Bacchus first planted the vine and drank the juice of the grape. The tillage of the ground, and making of honey are also attributed to him.

He is called *Liber*, and *Lyæus;* because wine frees the mind from cares, and those who have drank plentifully speak too often what comes into their minds.

CHAP. VII.

OF MIVERVA AND VENUS.

MINERVA, or *Pallas*, the goddess of wisdom, war, arts, and sciences, was the daughter of Jupiter. *Vulcan* struck his forehead with a hammer, and after three months, he brought forth Minerva.

She was called *Minerva*, as some say, from the threats of her stern and fierce look. Instead of a woman's dress, she is arrayed in armour; wears a golden head-piece, and on it glittering crests; a brazen coat of mail covers her breast; she brandishes a lance in her right hand, and in her left holds a shield, whereon is painted the grisly head of Medusa, one of the Gorgons, rough and formidable with snakes.

Upon the head of this goddess there was an olive crown, which is the symbol of peace; either because war is only made that peace may follow; or because she taught men the use of that tree.

The cock and the owl are sacred to Minerva; the first being *expressive* of courage and watchfulness, and the latter the *emblem* of caution and foresight.

Her birth from *Jupiter's* head, is most certainly an emblem that all human arts and sciences are the production of the mind of man, directed by superior wisdom.

VENUS, the daughter of *Jupiter* and *Dione*, is the goddess of beauty, neatness, and chearfulness.

She is clothed with a purple mantle, glittering with diamonds. Refulgent with a rosy crown, she is attended by two *Cupids*. The *Graces* stand round her, and the lovely Adonis follows after, gently holding up her train. Her chariot is of ivory, finely carved, beautifully painted and gilt, fashioned in the form of a shell, and drawn by swans, doves, and swallows, or sometimes by sparrows, as she directs, when she pleases to mount it.

She is said to have sprung from the froth of the sea; and being laid in a shell, as it were in a cradle, to have been drawn by *Zephyrus* upon the island of Cyprus, where she was educated. When she grew up, she was carried into heaven, and presented to the gods, who, being taken with her beauty, all strove to marry her; but at last she was betrothed to Vulcan, to whom afterwards she was given in wedlock.

The companions of Venus, were *Hymæneus*, the god of marriage, and *Cupid*, the god of love. She is called the *Lesbian Queen*, from *Lesbos*, in the island of Cyprus.

On a dispute, at a feast of the gods, between *Juno*, *Pallas*, and *Venus*, for the pre-eminence of beauty, Jupiter, not being able to bring them to an agreement, referred the decision to *Paris*, a shepherd on mount Ida, with directions that a golden apple should be given to the fairest. Paris determined the prize in favour of *Venus*, and assigned to her the golden reward. *Venus*, in return for this singular regard to her, promised Paris Helena, the fairest beauty in the world. Paris sailed

into Greece with a great fleet, and brought away *Helen*, who had been betrothed to *Menelaus*, king of Sparta; but he being then absent, Paris carried her away with him to Troy, which brought on the famous siege of that city.

CHAP. VIII.

OF THE TERRESTRIAL DEITIES, TITAN, VULCAN, AND JANUS.

TITAN, the elder brother of *Saturn*, though not a god, claims the first place, being the elder son of *Cœlus* and *Terra;* and on agreement with *Jupiter*, his younger brother, he yielded to him his birthright, as is before mentioned. His sons were the *Giants*, called from him *Titans*.

VULCAN, the husband of *Venus*, was son of Jupiter and Juno; but being born deformed, he was cast down from heaven by Jupiter, as soon as he was born, and in the fall broke his leg. He was the god of subterraneous fires, and presided over metals.

He first made his addresses to Minerva, and was refused by her. He afterwards married *Venus*, but that goddess disregarded him for his deformity.

Vulcan made the chariot of the Sun, and supplied *Jupiter* with thunder. He fixed his forges on mount Ætna, but chiefly in the island of *Lemnos*, where he worked for the gods, and taught the natives the art of working iron by fire. His forgemen were the *Cyclops*, who are represented as having one eye only, in the middle of their forehead. Apollo, it is said, slew them all, for having forged the thunder with which Jupiter struck Æsculapius, the god of physic.

The principal temple of *Vulcan* was on mount *Ætna*, and he is painted with a hat of blue colour, the symbol of fire. He was called *Mulciber*, or *Multifer*, from his softening and polishing iron.

JANUS, the son of *Cœlus* and *Hecate*, had a double face and forehead in one and the same head. Hence he got the name of the two-faced god, and was said to see things placed behind his back, as well as before his face. In his right hand he holds a key, and in his left a rod; and beneath his feet are 12 altars.

The temple of Janus, at Rome, was held in great veneration, and was kept open in the time of war, and shut in the time of peace. It is remarkable, that, within the space of 700 years, this temple was shut only thrice: once by Numa; afterwards by the consuls *Marcus Attilius* and *Titus Manlius*, after a league struck up with the Carthaginians; and, lastly, by *Augustus*, after the victory of *Actium*.

CHAP. IX.

OF THE TERRESTRIAL GODDESSES, LATONA, DIANA, AND CERES.

LATONA was the daughter of *Phœbe*, and *Cæus* the Titan. On account of her great beauty, she was beloved of Jupiter, by whom she had *Diana* and *Apollo*.

DIANA, goddess of hunting, was the daughter of *Ceres* and *Jupiter*, and sister of *Apollo*. She is usually painted in a hunting habit, with a bow in her hand, a quiver full of arrows, hanging down from her shoulders, and her breast covered with the skin of a deer. She was the goddess of hunting and chastity.

She has three different names, and as many offices. In the heavens she is called *Luna* and Phœbe, on the earth *Diana*, and in hell *Hecate*. In the heavens she enlightens all things by her rays. On the earth she subdues all the wild beasts, by her bow and darts; and in hell keeps in subjection the ghosts and spirits, by her power and authority.

Many temples were erected to this goddess, of which, that of Ephesus was the chief. The woods, groves, and forests, were also consecrated to her.

Acteon, grandson of *Cadmus*, a famous hunter, intruding himself, whilst Diana was bathing in a fountain, the goddess changed him into a stag, and he was devoured by his dogs*.

Ceres, the daughter of *Saturn* and *Ops*, is represented as a lady, tall in stature, venerable with majesty, beautified wlth yellow hair, and crowned with a turban, composed of the ears of corn. She holds in her right hand a burning torch, and in her left, a handful of poppies and ears of corn.

She first invented and taught the art of tilling the earth, of sowing pulse and corn, and of making bread; whereas before, men only ate acorns. As soon as agriculture was introduced, and men began to contend about the limits of those fields, which before were common and uncultivated, she enacted laws, and determined the rights and properties of each person, when disputes arose.

Ceres is beautiful, because the earth which she resembles, gives a very delightful and beautiful spectacle to beholders; especially when it is arrayed with plants,

* Ovid.

diversified with trees, adorned with flowers, enriched with fruits, and covered with green herbs, when it displays the honours of the Spring, and pours forth the gifts of Autumn with a bountiful hand.

She holds a lighted torch, because when Proserpine was tolen away by Pluto, she lighted torches with the flames of mount Ætna, and with them sought her daughter through the whole world.

Among various nations, the first fruits of the earth were offered to *Ceres*, as goddess of corn and agriculture.

CHAP. X.

OF NEPTUNE, AND OTHER MARINE DEITIES.

NEPTUNE was the son of Saturn and Ops, and brother of Jupiter and Pluto. In the division of his father's kingdom by Jupiter, the empire of the sea was allotted to Neptune.

Having joined with Apollo in a conspiracy against Jupiter, they were both driven from heaven; and, by Jupiter's command, forced to serve Laomedon, in building the walls of Troy. Neptune, not receiving the reward of his services, sent a sea-monster on the coasts, which ravaged the country.

Neptune afterwards became charmed with the beauty of *Amphitrite*, but could not for a long time obtain her. At last, however, by the assistance of a dolphin, and the power of flattery, he drew her into marriage.—Neptune, as an acknowledgement of this kindness, placed the dolphin among the stars, and he became a constellation.

In a dispute with Minerva, who should give a name to

Athens, the capital city of Greece, he struck the ground with his trident, and produced an horse; for which reason, the Athenians sacrificed to him that animal.

Neptune is esteemed governor of the sea, and father of the rivers and fountains. He is represented riding on the sea in a car, in the form of a shell, drawn by sea-horses, preceded by Tritons. He holds a trident in his right hand, as an emblem of his sovereignty, and is attended by the young Tritons and Sea Nymphs.

OCEANUS, a marine deity, descended from Cœlus and Vesta, was called, by the ancients, not only the father of rivers, but also of animals, and of the gods themselves.

THETIS, goddess of the sea, and wife of *Oceanus*, is said to have had many sons; the chief of whom was Nereus, who dwelt in the *Ægean Sea*, and by his wife *Doris* had 50 daughters, called from him Nereides. Thetis is represented sitting in a chariot, in the form of a shell, drawn by dolphins.

AMPHITRITE was daughter of Oceanus and Doris, goddess of the sea, and wife of Neptune. She is by the poets frequently taken for the sea itself.

TRITON, the son of *Neptune* and *Amphitrite*, was also his companion and trumpeter. In the upper part of his body he bears the resemblance of a man, and of a fish in the lower part. Most of the sea-gods, from him, are called Tritons.

The SYRENS were inhabitants of the sea. They had faces of women, but the bodies of flying-fish.—Their names were *Parthenope*, *Ligæa*, and *Leucosia*. These dwelt near the coast of *Sicily*, and drew to them all passengers by the sweetness of their singing, and then devoured them.

CHAP. XI.

OF THE INFERNAL DEITIES, PLUTO AND PROSERPINE.

PLUTO was the son of *Saturn* and *Rhea*, and brother of *Jupiter* and *Neptune*. In the division of his father's kingdom, when he was dethroned by Jupiter, Pluto had the western parts assigned to him, which gave rise to the poetical fable, that he was the god of hell.

He is called *Dis* by the Latins, and *Hades* by the Greeks, which last signifies *dark* and *gloomy*.

He sits on a dark throne, holding a key instead of a sceptre, and wearing a crown of ebony. Sometimes he is crowned with a diadem, sometimes with cypress, and sometimes with the daffodil, which flower Proserpine was gathering, when he stole her away.

His horses and chariot are of a black colour; and himself is often painted with a rod in his hand for a sceptre, and covered with a head-piece.

PROSERPINE is queen of hell, the infernal *Juno*, and wife of Pluto. She was daughter of *Jupiter* and *Ceres*.

When none of the goddesses would marry Pluto, because of his deformity, the god being vexed that he was despised, and forced to live a single life, in a rage mounted his chariot, and suddenly sprung up from a den in Sicily, amongst a company of very beautiful virgins, who were gathering flowers in the fields.—Pluto, inflamed with the love of Proserpine, carried her off with him, and sunk into the earth, not far from Syracuse, where suddenly a lake arose.

The Nymphs, her companions, being struck with

terror, acquainted her mother with the loss of her daughter. Ceres, with lighted torches from mount Ætna, long sought her in vain; but at last, being informed by the nymph Arethusa, that she was stolen by Pluto, she went down into hell, where she found Proserpine, queen of those dark dominions. The enraged mother complained to Jupiter of the violence offered to her daughter by his brother Pluto. Jupiter promised that she should return to the earth, provided she had eaten nothing in hell. Upon which, Ceres went down rejoicing; and Proserpine was returning with transport, when Ascalaphus declared, that he saw Proserpine eat some grains of a pomegranate, which she gathered in Pluto's orchard. By this discovery her return was stopped. The mother, incensed at this intelligence, changed Ascalaphus into an owl; and, by her importunate intreaty, extorted from Jupiter, that Proserpine should live one half of the year with her, and the rest of the time with her husband Pluto. Proserpine afterwards so loved this *disagreeable husband*, that she became jealous of him, and changed his mistress *Mentha* into the herb named *mint*.

CHAP. XII.

OF PLUTUS, NOX, CHARON, AND THE TITANS.

PLUTUS, god of riches, is said to be blind, void of judgment, and of a nature quite timorous. All these qualities denote some peculiar property of this god. He is blind, and void of judgment, in the unequal distribution of riches, as he frequently passes by good men, whilst the wicked are loaded with wealth; and

timorous, because the rich are constantly in fear, and watch over their treasures with great care and anxiety.

NOX, goddess of darkness, is the most ancient of all the goddesses. She married the river *Erebus* in hell, by whom she had many daughters. *Nox* is painted in black robes, beset with stars.

CHARON, the son of *Erebus* and *Nox*, is the *ferry-man* of hell. He is represented by the poets as a terrible, grim, dirty, old fellow. According to the fable, he attended with his boat, and, for a small piece of money, carried over the river *Styx* the souls of the dead ; yet not all promiscuously, but only those whose bodies were committed to the grave. The unburied shades wandered about the shores 100 years, and then were admitted into the boat, and ferried over the lake

The TITANS, or GIANTS, were at first inhabitants of the earth, who, trusting to their great stature and strength, waged war against Jupiter, and attempted to dethrone him from the possession of heaven. In this battle they heaped up mountains upon mountains, and from thence darted trees of fire into heaven. They hurled also prodigious stones and solid rocks, which falling again upon the earth, or in the sea, became mountains or islands. But being unsuccessful in the attempt, and destroyed by the thunder of Jupiter, with the assistance of the other gods, they were driven from the earth, and cast into hell.

CHAP. XIII.

OF THE FATES, FURIES, AND HARPIES.

THE FATES were three in number, daughters of *Erebus* and *Nox*. These were said to preside over

time past, present, and to come. Their names are *Clotho*, *Lachesis*, and *Atropos*. Their office is to superintend the thread of life. *Clotho* holds the distaff, and draws the thread, *Lachesis* turns the spindle, and *Atropos* cuts the thread with her scissars; that is, the first calls us into life, the second determines our lot and condition, and the third finishes our life.

The FURIES, or *Eumenides*, were daughters of *Nox* and *Acheron*. They were three, namely, Alecto, Megæra, and Tisyphone. Their abode was in hell to torment the wicked. They were armed with blazing torches, and surrounded with snakes and other instruments of horror.

The HARPIES, or birds of prey, were also inhabitants of hell. These were indifferently called *Furiæ*, *Ocypete*, and *Lamiæ*. They were instruments in the hands of the gods to raise wars in the world, and disturb the peace of mankind.

CHAP. XIV.

OF TARTARUS AND ELYSIUM.

THE infernal regions, the residence of *Pluto*, are said to be a subterraneous cavern, whither the shades or souls of mortals descended, and were judged by *Minos*, *Æacus*, and *Rhadamanthus*, appointed by Pluto judges of hell. This place contained *Tartarus*, the abode of the unhappy; also *Elysium*, the abode of those that had lived well.

Cerberus, a dog with three heads, was door-keeper, and covered with *serpents*, always waited at the infernal gate, to prevent mortals from entering, and the *manes*, or shades, from going out.

Charon, as before mentioned, was ferryman of hell, and conducted the departed souls to the tribunal of *Minos*.

CHAP. XV.

OF THE INFERNAL RIVERS.

THE rivers of hell were, ACHERON, STYX, COCYTUS, PHLEGETHON, and LETHE.

The waters of *Acheron* are extremely muddy and bitter.

Styx is the principal river of hell. It was held in so great veneration by the gods, that whoever broke the oath he had once made by this river, was deprived of his divinity for 100 years.

Cocytus is increased by the tears of the wicked; and flows with a lamentable noise, imitating the miserable.

Phlegethon swells with fiery waves, and rolls streams of fire. The souls of the dead, having passed over these rivers, are carried into *Pluto's* palace.

Lethe is the river of forgetfulness. If the ghosts of the dead drank the waters of this river, they were said to lose the remembrance of all that had passed in this world.

CHAP. XVI.

SINGULAR PUNISHMENTS.

FABLE relates four remarkable punishments in Tartarus. 1. *Ixion*, for attempting to seduce Juno, was by Jupiter cast into hell, and condemned to be chained to a wheel, which continually whirled round. 2. The *rebel Giants*, after their defeat by Jupiter, were punished

in the severest manner, for their enormous crimes.—The poets, in speaking of these monsters, say, they had *snakes* instead of *legs*. 3. Tantalus is represented as hanging over the waters, which are always flowing from him; and, at the same time, the finest fruit almost touches his lips, which he is not permitted to taste. To this eternal torment of hunger and thirst he was condemned, for having invited the gods to a feast, when, to prove their *divinity*, he killed, boiled, and served up the joints of his son Pelops, as a repast for them. 4. Sysiphus, the son of Æolus, is doomed to roll a huge round stone to the top of a mountain, whence it immediately descends, and makes his labour perpetual. This punishment was allotted him, because he revealed the secrets of the gods. He was also a notorious robber.

CHAP. XVII.

OF THE INFERIOR DEITIES.

THE poets mention several deities of inferior note, stiled *Dii Minores*.

ÆOLUS, god of the winds, tempests, and hurricanes, was the son of *Jupiter* and *Alcesta*.—*Aquilo* and *Boreas* are cold winds of the north.—*Eurus*, or the genius of the east winds, presided over all the eastern quarter of the heavens.—*Zephyrus*, or the west wind, presided over the west, and is the mildest of all the wind deities. *Auster*, or *Notus*, the genius of the south wind, was the chief director of the south.—These deities were all *brothers*, sons of *Astræus*, the eldest brother of *Saturn*, by *Aurora*.

MOMUS, son of *Nox* and *Somnus*, was the god of jesting, banter, and folly. He is represented with a

mask and grotesque face. He was rather a jester, mocker, or mimic of the gods, than a god himself.

MORPHEUS was the god of sleep.

PAN, son of *Mercury* and *Penelope*, was the god of the woods and shepherds. He is represented half man, and half goat, with a large pair of horns on his head, a crook in one hand, and a pipe, composed of reeds, in the other. The *Arcadians* much admired his music, and paid him divine honours.—SYLVANUS and FAUNUS were also gods of the forests, from whom were descended the other rural deities, as *Satyrs*, *Sylvans*, *Fauns*, *Nymphs*, or *Dryades*, who were all inhabitants of the woods.

FLORA was the goddess of the spring and flowers, and wife of *Zephyrus*. She is represented adorned with garlands, and near her is a basket of flowers.

POMONA presided over gardens, orchards, and fruit trees. She was beloved of *Vertumnus*, as *Ovid* relates.

TERMINUS was a deity, who presided over the boundaries of lands, which were held so sacred, that whoever removed a land-mark, or ploughed it up, was subject to death.

PRIAPUS was the son of *Venus* and *Bacchus*. It was his business to drive away birds, and guard the fruit and trees.

CHAP. XVIII.

OF CUPID, AND OTHER INFERIOR DEITIES.

CUPID, god of love, son of *Mars* and *Venus*, is represented blind, with a bow in his hand, and a quiver of arrows on his shoulders, with which he wounds the hearts of lovers.

HYMENÆUS, or *Hymen*, is the god of marriage; and is represented under the figure of a young man, holding a torch in his hand, with a crown of roses, and sweet marjoram on his head.

The PENATES and LARES were also deemed gods. The first presided over provinces and kingdoms, and the latter over houses and particular families. The *Lares* also presided over the highways; and they were wont to sacrifice to these household gods, frankincense, wine, bread, corn, and a cock; and, according to some writers, a lamb and a hog.

The GENII also were spirits, or deities, that presided over all persons and places. And, indeed, so great was the number of these inferior gods, that the ancient mythology furnished almost as many deities as there are things in nature.

ÆSCULAPIUS, son of Apollo, was the god of physic. He was slain by *Jupiter*, with a thunderbolt forged by the *Cyclops*, on the complaint of *Pluto*, for raising the dead, or rather recovering men by his skill in medicine from their sickness. He was worshipped under the figure of a serpent; and sometimes he is represented seated on a throne of gold and ivory, holding a rod environed with a serpent, and a dog at his feet.

The CYCLOPS, four in number, were sons of *Neptune* and *Amphitrite*. They were servants of *Vulcan*, and had only one eye placed in the middle of their foreheads.

SILENUS was the foster father of *Bacchus*. He is accounted the god of *abstruse mysteries* and knowledge. He is represented as a fat, old, drunken fellow, riding on an ass.

CHAP. XIX.

OF THE MUSES, GRACES, AND OTHER INFERIOR GODDESSES.

THE MUSES, daughters of Jupiter and Mnemosyne, goddess of memory, were the reputed goddesses of the several arts and sciences, and presided over the feasts and solemnities of the gods.

They were the companions of Apollo, and lived with him chiefly on the hills of *Parnassus*, *Helicon*, and *Pindus*. The *Hippocrene*, and other fountains at the foot of *Parnassus*, were sacred to them, as were also the palm-tree and the laurel. They are represented young and very handsome, and are nine in number. Their names are CLIO, CALLIOPE, ERATO, THALIA, MELPOMENE, TERPSICHORE, EUTERPE, POLYHYMNIA, and URANIA.

Clio presides over history, and is said to be the inventress of the lute. *Calliope*, so called from the sweetness of her voice, presides over eloquence and heroic poetry. *Erato*, or the *Lovely*, presides over lyric poetry. *Thalia* is the goddess of comedy; *Melpomene*, of tragedy; and *Terpsichore*, or the *Jovial*, of dancing.—*Euterpe* is so called, because she imparts joy. She invented the flute, and presided over music. She is also said to be the patroness of logic. *Polyhymnia* is so called from her multiplicity of songs. She is said to excel in memory, and is the goddess of the ode. *Urania*, or the *celestial muse*, presided over *divine poesy;* and is said to be the inventress of astronomy.

The *Muses* are distinguished by masks, lyres, garlands, globes, and other emblems expressive of their different offices or accomplishments.

Pegasus, the famous horse of ancient fable, was an attendant on *Apollo* and the *Muses*. He inhabited the mountains of *Parnassus* and *Helicon*. It is said, that he sprung from the blood of *Medusa*, killed by Perseus; and he is represented by the poets with wings to his sides, expressive of the flights and elevation of the mind in poetry. When *Perseus* struck off the head of *Medusa*, the horse *Pegasus* struck the ground with his foot; upon which, at the bottom of the hill, a fountain arose, named *Hippocrene*. This fountain was sacred to Apollo and the Muses.

The GRACES, called also *Charites*, were three sisters, daughters of *Jupiter* and *Eurynome*, or *Venus*.—The first was named *Aglaia*, from her chearfulness; the second *Thalia*, from her perpetual verdure; and the third *Euphrosyne*, from delight. They were companions of the Muses and Mercury, and attendants on Venus. They are represented with pleasing countenances, and without garments, to denote that our actions should be free and candid, not covered over with dissimulation or deceit. A chain binds their arms together, to express that the link of love and harmony should be united and unbroken.

THEMIS, ASTREA, and NEMESIS, were three goddesses: the first of law and peace; the second of justice; and the third, a rewarder of virtue, and punisher of vice.

CHAP. XX.

OF THE ÆGYPTIAN DEITIES.

OSIRIS, *Apis*, and *Serapis*, are different names of one and the same deity, son of Jupiter by Niobe, and husband to Isis.

Their son ORUS was deemed, by the *Ægyptians*, the *Protector of the river Nile*, the *Averter of Evils*, *Governor of the World*, and the *Author of Plenty*.

These deities of the Ægyptians were held in the greatest veneration. Temples were erected, and divine honours paid to Osiris under the figure of an ox; and the priestesses of Isis sacrificed to that goddess under different shapes, according to the purposes for which they were intended.

As fable is said to take its origin from the *Ægyptians*, it will appear, from their intercourse with the Jews, long resident in *Ægypt*, that a mixture of true religion and error increased that false worship, which first prevailed in that country, and afterwards spread into Rome, and the more distant parts of the world.

These gods of the Ægyptians were worshipped under various names and characters, according to the prevailing opinion of different countries, or some other incident. Thus according to *Herodotus*, *Osiris* and *Bacchus* are the same; and *Isis* is said to be the same with the Roman *Cybele*, *Ceres*, *Minerva*, and *Luna*. Orus also was the symbol of light, and was figured as a winged boy. He was named the *Hermes* of the Greeks, and the *Apollo* and *Cupid* of the Romans.

CHAP. XXI.

OF THE PANTHEON.

BOTH in Ægypt and Rome, each deity had a temple, where the most solemn sacrifices were made to them, according to the prevailing notion of their power and influence.

The worship of these gods so far prevailed among the Romans, that they erected to their honour a public edifice, named the PANTHEON, in which, as a general repository, were placed the statues of their several deities, with their respective symbols. *Jupiter* was distinguished by a thunder-bolt; *Juno*, by a crown; *Mars*, by a helmet; *Apollo*, or the *Sun*, by his beams; *Diana*, or the *Moon*, by a crescent; *Ceres*, by a *cornucopia*, or horn of plenty, or an ear of corn; *Cupid*, by a bundle of arrows; *Mercury*, by the wings on his feet, and a *caduceus*, or wand in his hand; *Bacchus*, by the ivy; *Venus*, by the beauty of her person; and the rest had the like distinguishing characters placed above their statues, or in their hands, according to the received opinion of the people, or the ingenuity of the artist.

CHAP. XXII.

OF ORACLES.

THE ORACLES of the ancients were deemed predictions, and mysterious declarations of the will of the gods. It may, with a kind of certainty be admitted, that the natural bent of the mind of man to search into futurity, gave rise to this institution.

To whatever cause, however, the origin may be ascribed, the institution of Oracles became general,

among the idolatrous nations, and increased over the face of the whole earth.

Not to mention other nations, the *Oracles* of the *Ægyptians* and *Greeks* were numerous, especially of the latter people; at least we have a more full account of them.

The *Oracle* of *Dodona*, a city of Epirus, in Greece, was sacred to *Jupiter*. The *Oracle* of *Jupiter Hammon* was also of ancient date, and famous in *Lybia*. The *Oracle* of *Apollo*, at Heliopolis, was of great note. The *Oracle* also of *Apollo*, at *Delphi*, if not the most ancient, was the most celebrated of all *Greece*, insomuch, that it was called the *Oracle of the whole Earth*.

And, indeed, so established was the character of these oracular declarations, that the enacting laws, the reformation of government, also peace or war, were not undertaken by states or princes; but even in the more common concerns of life, no material business was entered upon, without the sanction of the *Oracle*.

Each Oracle had its priest or priestess, who delivered out the answers of the gods. These answers, for the most part, were in verse, and couched under such mysterious terms, that they admitted of a double interpretation; insomuch, that whether the prediction was completed, or the expectation of the supplicant disappointed, the Oracle was clear from blame.

The *Oracle* of *Apollo* at Delphi, being in the greatest reputation, was resorted to from all parts. The priestess of Apollo, was named Pythia, from the serpent Python, killed by that god, as is before mentioned.

The offerings to the gods, on these applications, were liberal, according to the ability of the supplicant,

or the importance of the answer required; and, it is said, the temple and city of Delphi especially, were, by these means, filled with immense treasure.

The principal *Oracle* of the *Ægyptians* was at Memphis, a royal city of Ægypt, where they erected an altar, and worshipped their god *Apis*, under the figure of an *ox*. His wife *Isis* had also worship, and her priests were called *Isiaci*.

CHAP. XXIII.

OF THE SYBILLINE ORACLES.

THE SYBILLINE ORACLES were certain women, whom the ancients believed to be endued with the gift of prophecy. They are said to be 10 in number, and were famous in all lands. They had no fixed residence, but travelled into different countries, and delivered their predictions in verse, in the Greek tongue. One of these *Sybils*, named *Erythræa*, or Cumæa, from *Cuma*, a city in the *Ionian* sea, according to *Virgil*, came into *Italy*, and was held in the highest esteem by the *Romans*, who consulted the Oracle of the *Sybil* on all occasions that related to the welfare of the republic.

CHAP. XXIV.

OF AUGURY.

AUGURY, or the art of divination by birds, the meteors of the heavens, or the entrails of beasts, was held in the highest veneration by the idolatrous nations. The Jews were not free from idolatry in the time of Moses; and we read also in the sacred writings, that

Saul, being vexed in spirit, applied to the *Seers*, or persons skilled in the knowledge of futurity.

But not to go so far back, Romulus and Remus consulted the Auguries, before they built Rome; and the foundation of that city was determined by the flight of birds. Numa established a college of Augurs, and confirmed his regulation of the Roman state by their sanction.

It appears also in the history of that people, that no national concern was entered upon, without first consulting the Auguries; and, according to the propitious or bad omen, they made peace or war, and appointed magistrates. Indeed, the Augurs, and their declarations, were held in so high regard by the Romans, that whoever contemned them, was accounted impious and profane. To conclude, *divination*, or the spirit of prediction, made a considerable part of the pagan theology, especially among the Romans, those lords of the world, who fell into the general delusion, and adopted almost all the gods of every people they subdued.

CHAP. XXV.

OF DEMI-GODS OR HEROES.

THE title of *hero* was given by the Greeks to those who had made themselves famous. A *demi-god* was a man descended of a god, or goddess, by a mortal; of which there were great numbers. Æneas, Ulysses, Hercules, Theseus, Achilles, and Jason, were the most celebrated.

Æneas was a Trojan prince, son of Anchises and the goddess Venus. He is memorable for his grateful care

of his aged father, whom he bore through the flames of Troy upon his shoulders, at the hazard of his life, and that of his son Ascanius, a child, who was obliged to cling to his garments to escape them. Arriving in Italy, he married Lavinia, the daughter of Latinus, king of the Latins, and built Lavinium, so named after his wife. He died in the year before Christ 1197.

Ulysses, on his return by sea from the Trojan war to the island of Ithaca, of which he was king, was met by the *Syrens*, who used every effort to stop him; but, that he might not be surprised by their melodious voices, he stopped his ears, and caused himself to be tied to the mast of the ship.

His wife *Penelope*, who was besieged by a numerous train of lovers in the absence of her husband, delivered herself by artifice. She promised to make choice of one of them as soon as a piece of tapestry, on which she was at work, should be finished; but every night, she unwove all she had done the preceding day.

Hercules was the son of Jupiter and Alcmene, wife of Amphytrion. He was exposed, through the whole course of his life, to perform the most dangerous adventures, by the malignity of Juno and the fatality of his birth. His principal exploits are termed, by way of eminence, the *twelve labours of Hercules*.

Eurystheus, who succeeded Perseus, in the kingdom of Argos, had conceived a jealousy of Hercules, and imposed upon him, as fabulous history relates, the following hazardous enterprizes. 1. He overcame the lion of Nemæa, whose skin he afterwards wore. 2. He destroyed the hydra with seven heads. 3. He took, on the mountain Erimanthus, in Arcadia, a wild boar, that had made dreadful havock round the country, and

dragged it alive to Eurystheus. 4. He catched an hind with golden horns and brazen hoofs, after hunting her a year on foot. 5. He cleansed the stable of Augeas, king of Elis, in which 3000 oxen had stood for many years. 6. He destroyed the harpies, or birds of prey. 7. He delivered Prometheus from mount Caucasus, and killed the eagle which fed upon his liver. 8. He killed Diomedes, and the horses which he fed on human flesh. 9. He subdued the giant Geryon, and carried away his flock of cattle. 10. He conquered the army of the Amazons, and took from Hippolite their queen, her girdle, and married her to Theseus. 11. He went down to hell, and destroyed the three-headed dog Cerberus. 12. He killed the dragon, which defended the garden of the Hesperides, and brought from thence the *golden apples*.

Besides these, and many other notable atchievements, Hercules is said to have taken the *heavens upon his shoulders*, in order to ease *Atlas*, the son of Uranus, a great observer of the stars, and *the first who represented the world by a sphere*.

This famous hero ended his life in the following manner. Having slain the centaur Nessus, the dying monster gave Dejanira, Hercules's wife, a garment dipt in his own blood, as a preservative for love. This Dejanira soon after sent him to regain his affections. The hero had no sooner put on the poisoned shirt, than he was seized with violent and incurable pains ; therefore, making a funeral pile on mount Oëta, he set fire to it, and closed, with the most dreadful agonies, a life of hardships for the good of his fellow-creatures.

Theseus, was the son of Ægeus, king of Athens, and

Æthra, daughter of the wise Pitheus, at whose court he was brought up by Træzenus. He killed the *Minotaur*, a monster which had a bull's head, and all its lower parts human. It was inclosed in the labyrinth at Crete, made by Dædalus, by the order of Minos, king of that island, the inhabitants of which sacrificed men to Jupiter and Saturn; and where many of the gods and goddesses were born.

Perseus was the son of Jupiter and Danae, daughter of Acrisius, king of Argos. He was king of the Mycenians. He had the wings of Mercury, the shield of Minerva, the helmet of Pluto, and a sword forged by Vulcan. Thus armed, he overcame and cut off the head of Medusa, which, according to the poets, was surrounded by serpents instead of hair, and turned to stones those who had the rashness to look upon it. He also delivered Andromeda, daughter of Cepheus, king of Ethiopia, from a monster, and afterwards married her. He lived about 1348 years before Christ.

Achilles was the son of the goddess Thetis, daughter of Nereus and Doris, the most beautiful of the Nereides; and Peleus, son of the famous Æacus, king of Egina, and the nymph Endeis, daughter of Chyron. He was educated by the centaur *Chiron. His mother dipped him in the Styx, all but the heel, by which she held him, to make him invulnerable. He was slain at the siege of Troy by Paris, whose arrows shot him in the heel, in the year before Christ 1180.

Jason was the son of Eson and Alcimede. Upon the death of his father, he was placed under the tuition of Pelias, at whose persuasion he undertook the Ar-

* A Centaur is a monster, half man and half horse.

gonautic expedition to Colchis for the golden fleece, which he carried away about 937 years before Christ.

The *golden fleece* was the skin and fleece of a ram, called golden, because it was of a golden colour. It was guarded by bulls that breathed fire from their nostrils; and by a large and watchful dragon, in the grove of Mars.

Pelias, the son of Neptune and Tyro, was brought up by a mare, and became the most cruel of all men. He not only usurped the estates of Jason, but caused him to be imprisoned. He sacrificed his mother-in-law to Juno, and put to death the wife and children of Eson; but Jason was saved from his fury, and educated in private.

CHAP. XXVI.

ON THE BEAUTY AND UTILITY OF FABULOUS HISTORY.

SOME weak, though perhaps well-meaning men, condemn the delightful fictions, with which Homer and Hesiod, and their poetical imitators, have enriched and embellished their works. But although these fictions did not contain many useful instructions, and many important truths, would there be any reason to attack and destroy a system, which peoples and animates nature, and makes a *solemn temple* of the vast universe?

These flowers, whose varied and shining beauty we so much admire, are the tears of Aurora. It is the *breath* of Zephyrus which gently agitates the *leaves*. The *soft* murmurs of the waters are the *sighs* of the Naïades.

A god impels the *wind;* a god pours out the *rivers;* *grapes* are the gift of Bacchus; Ceres presides over the *harvest; orchards* are the care of Pomona. Does a shepherd sound his reed on the summit of a mountain? It is Pan who, with his pastoral pipe, returns the *pleasing lay.* When the sportsman's horn rouses the attentive ear, it is Diana, armed with her bow and quiver, and more *nimble* than the *stag* that she pursues, who takes the diversion of the chace. The sun is a god, who, riding on a car of fire, diffuses his light through the world. The stars are so many divinities, who measure with their *golden beams* the regular progress of fire. The moon presides over the *silence* of the night, and consoles the world for the absence of her brother. Neptune reigns in the *sea,* surrounded by the Nereides, who dance to the joyous shells of the Tritons.

In the highest heaven is seated Jupiter, the master and *father* of men and gods. Under his feet roll the *thunders,* forged by the Cyclops in the *caverns* of Ætna. His *smile* rejoices nature, and his *nod* shakes the foundation of Olympus. Surrounding the throne of their sovereign, the other deities *quaff nectar* from a cup presented to them by the young and beautiful Hebe. In the middle of the great circle shines, with distinguished lustre, the goddess of beauty, adorned with a splendid girdle, in which the graces appear elegant and chearful; and in her hand is a smiling boy, the picture of health and contentment.

Sweet illusions of the fancy! Pleasing errors of the mind! What objects of pity are those cold and insensible hearts, who have never felt your charms! And how destitute of taste must those persons be, who would destroy a world that has so long been the treasury of

the arts; a world imaginary, indeed, but delightful, and whose ideal pleasures are so well fitted to compensate for the real troubles and miseries of the world in which we live.

On this subject farther information may be obtained from "Spence's Polymetis," as abridged by Mr. Tindal; and "A Key to Polite Literature."

BOOK VI.

OF THE CONSTITUTION, GOVERNMENT, AND ADMINISTRATION OF THE LAW.

CHAP. I.

OF THE KING, AND BRITISH CONSTITUTION.

THE supreme executive power of Great Britain and Ireland, is vested by our constitution in a single person, king or queen; for it is indifferent to which sex the crown descends. The person intitled to it, whether male or female, is immediately intrusted with all the ensigns, rights, and prerogatives of sovereign power.

The grand fundamental maxim, upon which the right of succession to the throne of these kingdoms depends, is; "That the crown, by common law and constitutional custom, is hereditary; and this in a manner peculiar to itself; but that the right of inheritance may from time to time be changed, or limited by act of parliament:" under which limitations, the crown still continues hereditary.

That the young reader may enter more clearly into the deduction of the royal succession, by its being transferred from the house of Tudor to that of Stuart, it may be proper to inform him, that on the death of queen Elizabeth, without issue, it became necessary to recur to the other issue of her grandfather Henry VII. by Elizabeth of York his queen; whose eldest daughter Margaret having married James IV. king of Scotland, king James the Sixth of Scotland, and of England the First, was the lineal descendant from that alliance. So that in his person, as clearly as in Henry VIII. centred all the claims of the different competitors, from the Norman invasion downward; he being indisputably the lineal heir of William I. And, what is still more remarkable, in his person also centred the right of the Saxon monarchs, which had been suspended from the Norman invasion till his accession. For Margaret, the sister of Edgar Atheling, daughter of Edward the Outlaw, and grand-daughter of king Edmund Ironside, was the person in whom the hereditary right of the Saxon kings, supposing it not abolished by the conquest, resided. She married Malcolm III. king of Scotland; and Henry II. by a descent from Matilda, their daughter, is generally called the restorer of the Saxon line. But it must be remembered, that Malcolm, by his Saxon queen, had sons as well as daughters; and that the royal family of Scotland, from that time downward, were the offspring of Malcolm and Margaret. Of this royal family king James I. was the direct and lineal descendant; and therefore united in his person every possible claim by hereditary right to the English as well as Scottish throne, being the heir both of Egbert and William the Norman.

At the revolution in 1688, the convention of estates, or representative body of the nation, declared that the misconduct of king James II. amounted to an abdication of the government, and that the throne was thereby vacant.

In consequence of this vacancy, and from a regard to the ancient line, the convention appointed the next protestant heirs of the blood royal of king Charles I. to fill the vacant throne, in the old order of succession; with a temporary exception, or preference, to the person of William III.

On the impending failure of the protestant line of king Charles I. (whereby the throne might again have become vacant) the king and parliament extended the settlement of the crown to the protestant line of king James I. viz. to the princess Sophia of Hanover, and the heirs of her body, being protestants; and she is now the common stock, from whom the heirs of the crown must descend.

The true ground and principle, upon which the revolution proceeded, was entirely a new case in politics, which had never before happened in our history: the abdication of the reigning monarch, and the vacancy of the throne thereupon. It was not a new limitation of the crown, by the king and both houses of parliament. It was the act of the nation alone, upon a conviction that there was no king in being. For in a full assembly of the lords and commons, met in convention, upon the supposition of this vacancy, both houses came to this resolution: "That king James II. having endeavoured to subvert the constitution of the kingdom, by breaking the original contract between king and people; and by the advice of Jesuits, and

other wicked persons, having violated the fundamental laws, and having withdrawn himself out of this kingdom, has abdicated the government, and that the throne is thereby vacant." Thus ended at once, by this sudden and unexpected revolution, the old line of succession, which from the Norman invasion had lasted above 600 years, and from the union of the Saxon heptarchy in king Egbert, almost 900.

Though in some points the revolution was not so perfect as might have been wished, yet from thence a new æra commenced, in which the bounds of prerogative and liberty have been better defined, the principles of government more thoroughly examined and understood, and the rights of the subject more explicitly guarded by legal provisions, than in any other period of the English history. In particular, it is worthy observation, that the convention in this their judgment, avoided with great wisdom the extremes, into which the theories of some zealous republicans would have led them. They held that this misconduct of king James amounted to an *endeavour* to subvert the constitution, and not to an actual subversion, or total dissolution of the government. They, therefore, very prudently voted it to amount to no more, than an abdication of the government, and a consequent vacancy of the throne. The government was allowed to subsist, though the executive magistrate was gone; and the kingly office to remain, though James was no longer king. Thus the constitution was kept entire; which, upon every sound principle of government must otherwise have fallen to pieces, had so principal and constituent a part as the royal authority been abolished, or even suspended.

Hence it is easy to collect, that the title to the crown is at present hereditary, though not quite so absolutely hereditary as formerly; and the common stock or ancestor, from whom the descent must be derived, is also different. Formerly the common stock was king Egbert; then William the Conqueror; afterwards, in James the First's time, the two common stocks united, and so continued till the vacancy in the throne in 1688. Now it is the princess Sophia, in whom the inheritance was vested by the new king and parliament. Formerly the descent was absolute, and the crown went to the next heir without any restriction. But now, upon the new settlement, the inheritance is conditional; being limited to such descendants of the princess Sophia, as are protestant members of the church of England, and are married to none but protestants.

In this due medium, consists the true constitutional notion of the right of succession to the imperial crown of these kingdoms. Both the extremes, between which it steers, have been thought to be destructive of those ends, for which societies were formed, and are kept on foot. Where the magistrate, upon every succession, is elected by the people, and may, by the express provision of the law, be deposed by his subjects, this may sound like the perfection of liberty, and look well enough when delineated on paper; but in practice will be ever found extremely difficult. And, on the other hand, divine indefeasible hereditary right, when coupled with the doctrine of unlimited passive obedience, is surely, of all constitutions, the most slavish and dreadful. But when such an hereditary right as our laws have created and vested in the royal stock, is closely interwoven with those liberties, which are equally the inheritance of the

subject, this union will form a constitution, in theory the most beautiful of any, in practice the most approved, and, in all probability, will prove in duration the most permanent.

CHAP. II.

ON THE POWER OF THE BRITISH MONARCH.

THE king of Great Britain, notwithstanding the limitation of the power of the crown, is one of the greatest monarchs reigning over a free people. His person is sacred in the eye of the law, which makes it high treason so much as to imagine, or intend his death. Neither can he, in himself, be deemed guilty of any crime, the law taking no cognizance of his actions, but only in the persons of his ministers, if they infringe the laws of the land.

As to his power, it is very great, though he has no right to extend his prerogative, beyond the ancient limits, or the boundaries prescribed by the constitution. He can make no new laws, nor raise any new taxes, nor act in opposition to any of the laws. But he can make war or peace; send and receive ambassadors; make treaties of league and commerce; levy armies, and fit out fleets, for the defence of his kingdom, the annoyance of his enemies, or the suppression of rebellions; grant commissions to his officers, both by sea and land, or revoke them at pleasure; summon the parliament to meet, and when met, adjourn, prorogue, or dissolve it; refuse his assent to any bill, though it has passed both houses; which, consequently, by such a refusal, has no more force, than if it had never been

moved. This prerogative, however, the kings of England have very seldom ventured to exercise.

He possesseth also the right of choosing his own council; of nominating all the great officers of state, of the household, and of the church; and, in fine, is the fountain of honour, from whom all degrees of nobility and knighthood are derived. Such is the dignity and power of a king of Great Britain.

CHAP. III.

OF THE PARLIAMENT.

PARLIAMENTS, or general councils, in some shape, are of as high antiquity as the Saxon government in this island, and coeval with the kingdom itself. Blackstone, in his valuable Commentaries, says, "It is generally agreed, that, in the main, the constitution of parliament, as it now stands, was marked out so long ago as the 17th year of the reign of king John, A. D. 1215. In the *Great Charter*, granted by that prince, he promises to summon all archbishops, bishops, abbots, lords, and greater barons, personally; and all other tenants, under the crown, by the sheriff and bailiffs, to meet at a certain place, within 40 days notice, to assess aids and supplies when necessary. And this constitution hath subsisted, in fact, at least from the year 1266, in the reign of Henry III. There are still extant writs of that date to summon knights, citizens, and burgesses to parliament."

The parliament is assembled by the king's writs, and its sitting must not be intermitted above three years. Its constituent parts are, the king, sitting there in his royal political capacity, and the three estates of

the realm; the lords spiritual, the lords temporal (who sit together with the king in one house), and the commons, who sit by themselves in another. The king and these three estates, together, form the great corporation or body politic of the kingdom, of which the king is said to be *caput*, *principium*, et *finis*. For, upon their coming together, the king meets them, either in person, or by representation, without which there can be no beginning of a parliament; and he alone has the power of dissolving them.

It is highly necessary for preserving the balance of the constitution, that the executive power should be a branch, though not the whole of the legislature. The crown cannot begin of itself any alterations in the present established law; but it may approve or disapprove of the alterations suggested and consented to by the two houses. The legislative, therefore, cannot abridge the executive power of any rights, which it now has by law, without its own consent. The law must perpetually stand, as it now is, unless all the powers will agree to alter it.

In this consists the true excellence of the English government, that all the parts of it form a mutual check upon each other. In the legislature, the people are a check upon the nobility, and the nobility a check upon the people, by the mutual privilege of rejecting, what the other has resolved; while the king is a check upon both. This preserves the executive power from encroachments.

CHAP. IV.

OF THE HOUSE OF LORDS.

THE lords spiritual consist of two archbishops, and 24 bishops. The lords temporal consist of all the peers of the realm; the bishops not being, in strictness, held to be such, but merely lords of parliament. Some of the peers sit by descent, as do all ancient peers; some by creation, as do all the new made ones: others, since the union with Scotland, by election, which is the case of the 16 peers, who represent the body of the Scottish nobility. The number of the peers is indefinite, and may be increased at will by the power of the crown.

A body of nobility is more peculiarly necessary in our mixed constitution, in order to support the rights both of the crown and of the people; by forming a barrier to withstand the encroachments of both. It creates and preserves that gradual scale of dignity, which proceeds from the peasant to the prince; rising like a pyramid from a broad foundation, and diminishing to a point as it rises. The nobility, therefore, are the pillars, which are reared from among the people, more immediately to support the throne; and if that falls, they must also be buried under its ruins. Accordingly, when Charles I. was put to death, the commons having determined to extirpate monarchy, also voted the house of lords to be useless and dangerous.

CHAP. V.

OF THE HOUSE OF COMMONS.

THE commons consist of all such men of any property in the kingdom, as have not seats in the house of

lords; every one of whom has a voice in parliament, either personally, or by his representatives.

This, however, must be understood with some limitation. Those who are possessed of estates in land, though to the value of only *forty shillings* per annum, have a right to vote for members of parliament; as have most of the members of corporations and boroughs. But there are very large trading towns and populous places, which send no members to parliament; and of those towns which do send members, great numbers of the inhabitants have no votes. Many thousand persons of great personal property, have, therefore, no representatives. Indeed, the inequality and defectiveness of the representation, has been justly considered as one of the greatest imperfections in the English constitution. The duration of parliaments, being extended to seven years, has been considered in the same light.

In a free state, every man, who is supposed a free agent, ought to be, in some measure, his own governor; and therefore, a branch at least of the legislative power should reside in the whole body of the people. In a large state, it is very wisely contrived, that the people should do that by their representatives, which it is impracticable to perform in person. The counties are therefore represented in parliament by knights, elected by the proprietors of lands. The cities and boroughs are represented by citizens and burgesses, chosen by the mercantile part, or supposed trading interest of the nation.

The number of English representatives is 513, and of Scotch 45; in all 558. And every member, though chosen by one particular district, when elected and returned, serves for the whole realm. For the end of

his coming thither is not particular, but general; not merely to serve his constituents, but also the commonwealth, and to advise his majesty, as appears from the writ of summons.

The following oath, called the *bribery oath*, is administered to every person before they poll. "I —— do swear (or being one of the people called Quakers, do solemly affirm) I have not received or had, by myself, or any person whatsoever in trust for me, or for my use and benefit, directly or indirectly, any sum or sums of money, office, place or employment, gift or reward, or any promise or security for any money, office, or employment, or gift, in order to give my vote at this election; and that I have not before been polled at this election. So help me God."

CHAP. VI.

OF THE POWER OF PARLIAMENT.

THE power of parliament is so transcendent and absolute, that it cannot be confined, either for causes or persons, within any bounds. It hath sovereign and uncontroulable authority in making, confirming, enlarging, restraining, abrogating, repealing, reviving, and expounding laws, concerning matters of all possible denominations, ecclesiastical or temporal, civil, military, maritime, or criminal. That absolute despotic power, which must in all governments reside somewhere, is here entrusted, by the British constitution. All mischiefs and grievances, operations and remedies, that transcend the ordinary course of the laws, are within the reach of this extraordinary tribunal.

It can regulate or new model the succession to the

crown; as was done in the reign of Henry VIII. and William III. It can alter the established religion of the land; as was done in a variety of instances, in the reign of king Henry VIII. and his three children, Edward VI. Mary, and Elizabeth. It can change and create afresh even the constitution of the kingdom, and of parliaments themselves; as was done by the act of union, and the several statutes for triennial and septennial elections. It can, in short, do every thing that is not naturally impossible; and therefore some have not scrupled to call its power by a figure rather bold, the *omnipotence of parliament*.

But then their power, however great, is given them in trust, and therefore ought to be employed according to the rules of justice, and for the promotion of the general welfare of the people. And it is a matter most essential to the liberties of the kingdom, that such members be delegated to this important trust, as are most eminent for their probity, their fortitude, and their knowledge; for it was a known apothegm of the great lord treasurer Burleigh, "that England could never be ruined but by a parliament." And, as sir Matthew Hale observes, "this being the highest and greatest court, over which none other can have jurisdiction in the kingdom, if by any means a misgovernment should any way fall upon it, the subjects of this kingdom are left without all manner of legal remedy."

In order to prevent the mischief that might arise, by placing this extensive authority in hands that are either incapable, or else improper to manage it, it is provided, that no one shall sit or vote in either house of parliament, unless he be 21 years of age. To prevent innovations in religion and government, it is enacted,

that no member shall vote or sit in either house, till he hath, in the presence of the house, taken the oaths of allegiance, supremacy, and abjuration. To prevent dangers that may arise to the kingdom from foreign attachments, connections or dependencies, it is enacted, that no alien, born out of the dominions of the crown of Great Britain, even though he be naturalized, shall be capable of being a member of either house of parliament.

CHAP. VII.

ON THE PRIVILEGES OF THE MEMBERS.

SOME of the most important privileges of the members of either house are, privilege of speech, of person, of their domestics, and of their lands and goods. As to the first, privilege of speech, it is declared by a statute of William and Mary, as one of the liberties of the people, "that the freedom of speech, and debates, and proceedings in parliament, ought not to be impeached or questioned in any court or place out of parliament."

This freedom of speech is particularly demanded of the king in person, by the speaker of the house of commons, at the opening of every new parliament.

To assault by violence a member of either house, or his menial servants, is a high contempt of parliament, and punished with great severity.

Till lately, all members were exempted from legal arrests, and seizures by process from the courts of law. No entry could be made on their lands; their goods could not be distrained or seized; nor could they be taken into custody, without a breach of the privileges of parliament.

This exemption, however, from arrests for lawful debts, was always considered by the public as a grievance. The lords and commons, therefore, generously relinquished their privilege by act of parliament, in 1770; and members of both houses may now be sued like other debtors.

The house of lords have a right to be attended by the judges of the courts of King's Bench and Common Pleas, and such of the barons of the Exchequer as are of the degree of the coif, or have been made serjeants at law, as likewise by the masters of the court of Chancery; for their advice in point of law, and for the greater dignity of their proceedings.

The speaker of the house of lords is generally the lord chancellor, or lord keeper of the great seal, which dignities are commonly vested in the same person.

CHAP. VIII.

PECULIAR RIGHTS OF THE HOUSE OF COMMONS.

THE house of commons may be properly styled the grand inquest of Great Britain, impowered to enquire into national grievances, in order to see them redressed.

The peculiar laws and customs of the house of commons relate principally to the raising of taxes, and the elections of members to serve in parliament.

With regard to taxes, it is the ancient indisputable privilege and right of the house of commons, that all grants of subsidies, or parliamentary aids, begin in their house, and are first bestowed by them; though their grants are not effectual to all intents and purposes, until they have the assent of the other two branches of the legislature.

The general reason given for the exclusive privilege of the house of commons is, that the supplies are raised from the body of the people, and therefore it is proper, that they alone should have the right of taxing themselves. And so reasonably jealous are the commons of this privilege, that they will not suffer the other house to exert any power but that of rejecting. They will not permit the least alteration or amendment to be made, by the lords, to the mode of taxing the people by a money-bill. Under this appellation are included all bills by which money is directed to be raised upon the subject, for any purpose, or in any shape whatsoever; either for the exigencies of government, and collected from the kingdom in general, as the land-tax; or for private benefit, and collected in any particular district, as by turnpikes, parish-rates, and the like.

The method of making laws is much the same in both houses. In each house, the act of the majority binds the whole. This majority is declared by votes openly and publicly given; not as at Venice, and many other senatorial assemblies, privately or by ballot.

CHAP. IX.

OF PARLIAMENTARY BILLS.

To bring a bill into the house of commons, if the relief sought by it is of a private nature, it is first necessary to prefer a petition; which must be presented by a member, and usually sets forth the grievance desired to be remedied. This petition is referred to a committee of members, who examine the matter alledged, and accordingly report it to the house; and

then leave is given to bring in the bill. In public matters, the bill is brought in upon a motion made to the house, without any petition. This is read a first time, and, at a convenient distance, a second time; and, after each reading, the speaker opens to the house the substance of the bill, and puts the question, whether it shall proceed any farther.

The introduction of the bill may be originally opposed, as the bill itself may, at either of the readings. If the opposition succeeds, the bill must be dropt for that session; and it must also, if opposed with success, in any of the subsequent stages.

After the second reading, it is committed; that is, referred to a committee, which is either selected by the house, in matters of small importance; or else, if the bill is a matter of great, or national consequence, the house resolves itself into a committee of the whole house.

A committee of the whole house is composed of every member; and, to form it, the speaker quits the chair (another member being appointed chairman) and may sit and debate as a private member. In these committees, the bill is debated clause by clause. Amendments are made, the blanks are filled up, and sometimes the bill is entirely new-modelled.

After it has gone through the committee, the chairman reports it to the house, with such amendments as the committee have made. The house then re-consider the whole bill, and the question is repeatedly put, upon every clause and amendment.

When the house have agreed, or disagreed, respecting the amendments of the committee, and sometimes added new amendments of their own, the bill is ordered

to be engrossed, or written in a strong gross hand, on a roll of parchment, or, if necessary, on several rolls sewed together.

When this is finished, it is read a third time, and amendments are sometimes then made to it; and, if a new clause be added, it is done by tacking a separate piece of parchment to the bill, which is called a *rider.* The speaker then again opens the contents; and holding it up in his hands, puts the question whether the bill shall pass. If this be agreed to, the title to it is then settled.

After this, one of the members is directed to carry it to the lords, and desire their concurrence; who, attended by several more, carries it to the bar of the house of peers, and there delivers it to their speaker, who comes down from his woolsack to receive it. It there passes through the same forms, as in the other house; and, if rejected, no more notice is taken, but it passes, *sub silentio*, to prevent unbecoming altercations.

But if it be agreed to, the lords send a message by two masters in chancery, that they have agreed to the same; and the bill remains with the lords, if they have made no amendment to it. But if any amendments are made, such amendments are sent down with the bill, to receive the concurrence of the commons. If the commons do not agree to the amendments, a conference usually follows, between members deputed from each house, who, for the most part, settle and adjust the difference. But, if both houses remain inflexible, the bill is dropped. If the commons agree to the amendments, the bill is sent back to the lords by one of

the members, with a message to acquaint them therewith.

The same forms are observed, when the bill begins in the house of lords. But when an act of grace or pardon is passed, it is first signed by his majesty, and then read once only in each of the houses, without any new engrossing or amendment. And when both houses have done with any bill, it is always deposited in the house of peers, to wait the royal assent; except in the case of a money-bill, which, after receiving the concurrence of the lords, is sent back to the house of commons.

It may not be improper to observe, that both in the houses, and in their committees, the slightest expression, or most minute alteration, does not pass, till the speaker, or the chairman, puts the question; which, in the house of commons, is answered by *aye* or *no;* and, in the house of peers, by *content*, or *not content.*

CHAP. X.

OF THE ROYAL ASSENT TO BILLS.

THE giving the royal assent to bills is a matter of great form. When the king is to pass bills in person, he appears on his throne in the house of peers, in his royal robes, with the crown on his head, and attended by his great officers of state, and heralds. A seat on the right hand of the throne, where the princes of Scotland, when peers of England, formerly sat, is reserved for the prince of Wales. The other princes of the blood sit on the left hand of the king; and the chancellor on a close bench removed a little backwards. The viscounts and temporal barons, or lords, face the

throne, on benches, or wool-packs, covered with red cloth or baize. The bishops are seated on a bench, which runs along the house to the bar on the right hand of the throne. The dukes and earls sit on the left.

The chancellor and judges, on ordinary days, sit upon wool-packs between the barons and the throne. The common opinion is, that the house sitting on wool is symbolical of wool being formerly the staple commodity of the kingdom. Many of the peers on solemn occasions, appear in their parliamentary robes. None of the commons have any robes, excepting the speaker, who wears a long black silk gown; and when he appears before the king it is trimmed with gold.

The royal assent may be given two ways. 1. In person; when the king sends for the house of commons to the house of peers. The speaker carries up the money-bills in his hand; and, in delivering them, he addresses his majesty in a solemn speech, in which he seldom fails to extol the generosity and loyalty of the commons, and to tell his majesty how necessary it is to be frugal of the public money. It is upon this occasion, that the commons of Great Britain appear in their highest lustre.

The titles of bills that have passed both houses are read; and the king's answer is declared by the clerk of the parliament in Norman French. If the king consents to a public bill, the clerk usually declares, *le roy le veut*, "the king wills it so to be;" if to a private bill, *soit fait comme il est desiré*, "be it as it is desired." If the king refuses his assent, it is in the gentle language of, *le roy s'avisera*, "the king will advise upon it."

2. By a statute of Henry VIII. the king may give his assent by letters patent under his great seal, signed with his hand, and notified, in his absence, to both houses assembled together in the high house, by commissioners consisting of certain peers, named in the letters. And, when the bill has received the royal assent in either of these ways, it is then, and not before, a statute, or act of parliament.

An act of parliament thus made, is the exercise of the highest authority that this kingdom acknowledges upon earth. It has power to bind every subject in the land, and even the king himself. It cannot be altered, amended, dispensed with, suspended, or repealed, but in the same forms, and by the same authority of parliament; for it is a maxim in law, that it requires the same strength to dissolve, as to create an obligation.

CHAP. XI.

OF THE PRIVY COUNCIL.

THE king of Great Britain, besides his high court of parliament, has subordinate officers and ministers to assist him, who are responsible for their advice and conduct. They are made by the king's nomination, without either patent or grant; and on taking the necessary oaths, they become immediately privy counsellors, during the life of the king that chuses them; but subject to removal at his direction.

The duty of a privy counsellor appears from the oath of office, which consists of seven articles: 1. To advise the king according to the best of his cunning and discretion. 2. To advise for the king's honour and the good of the public, without partiality through

affection, love, need, doubt, or dread. 3. To keep the king's council secret. 4. To avoid corruption. 5. To help and strengthen the execution of what shall be there resolved. 6. To withstand all persons who would attempt the contrary. And lastly, to observe, in general, all that a good and true counsellor ought to do for his sovereign lord.

Among the privy counsellors, the two secretaries of state are more officially so than the others, as they are entrusted with the king's signet, and are supposed to advise with him in acts of government, which may not be proper to be communicated even to a privy counsellor; such as giving orders for secret expeditions, correspondence with spies, or other agents, securing traitors, and the like.

The office of secretary of state is at present divided into a southern and a northern department. The southern contains France, Spain, Portugal, Italy, the Swiss Cantons, Constantinople, and, in short, all the states in the southern parts. The northern comprehends the different states of Germany, Prussia, Poland, Russia, Sweden, Denmark, Holland, Flanders, and the Hanseatic towns.

The capital affairs of government, which were formerly intrusted with the secretaries of state, are now transacted by a committee of the privy-council, commonly called a cabinet-council. This cabinet generally consists of a select number of ministers and noblemen, according to the king's opinion of their integrity and abilities, or attachment to the views of the court. But, though its operations are powerful and extensive, a cabinet-council is not essential to the constitution of England.

This observation naturally leads me to mention the person, who is so well known by the name of the *first minister;* a term unknown to the English constitution, though the office is, perhaps, necessary. The constitution points out the lord high chancellor as minister; but the affairs of his own court give him sufficient employment. When the office of the first lord of the treasury is united with that of chancellor of the exchequer in the same person, he is considered as first minister. But though it is no office, yet there is a responsibility annexed to the situation, which renders it a post of difficulty and danger.

CHAP. XII.

OF THE GREAT OFFICERS OF THE CROWN.

I SHALL now take a short review of the nine great officers of the crown, who by their posts take place next to the princes of the royal family and the two primates.

The first is the *lord high steward* of England. This is an office very ancient, and formerly was hereditary, or at least for life. But now it is exercised only occasionally; that is, at a coronation, or when it is necessary to sit as judge on a peer or peeress, tried for a capital offence. In coronations, it is held, for that day only, by some high nobleman. In cases of trial, it is exercised generally by the lord chancellor, or lord keeper; whose commission, as high steward, ends with the trial, by breaking his white rod, the badge of his office.

The *lord high chancellor* presides in the court of chancery, to moderate the severities of the law, in all

cases where the property of the subject is concerned; and he is to determine according to the dictates of equity and reason. He is an officer of the greatest weight and power of any now subsisting in the kingdom, and is superior in precedency to every temporal lord.

The post of *lord high treasurer* has of late been vested in a commission, consisting of five persons, who are called lords of the treasury; but the first commissioner is supposed to possess the power of lord high treasurer. He has the management and charge of all the revenues of the crown kept in the exchequer; as also the letting of the leases of all crown lands, and the gift of all places belonging to the customs in the several ports of the kingdom. From this short view of his office, its importance may easily be understood. He has, in fact, the public finances in his hands, besides the disposal of so great a number of lucrative places, that a catalogue of them would fill many pages.

The *lord president of the council* was an officer formerly of great power, and has precedence next after the lord chancellor, and lord treasurer. His duty is to propose all the business transacted at the council-board, and to report to the king, when his majesty is not present, all its debates and proceedings.

The office of *lord privy seal* consists in his putting the king's seal to all charters, grants, and the like, which are signed by the king, in order to their passing the great seal.

The office of *lord great chamberlain* of England is hereditary to the duke of Ancaster's family. He attends the king's person, on his coronation, to dress him.

He has likewise charge of the house of lords, during the sitting of parliament; and of fitting up Westminster-hall for coronations, or trials of peers.

The office of *lord high constable* has been disused, since the attainder and execution of Stafford duke of Buckingham, in the year 1521; but it is occasionally revived for a coronation.

The duke of Norfolk is hereditary *earl marshal* of England. He regulates all points of precedency, according to the archives kept in the herald's office, which is entirely within his jurisdiction. He directs all solemn processions, coronations, proclamations, general mournings, and the like. Before England became so commercial a country, as it has been for a hundred years past, this office required great abilities, learning, and knowledge of the English history, for its discharge. In time of war, he was judge of army-causes, and decided according to the principles of the civil law. If the cause did not admit of such decision, it was left to a personal combat, which was attended with a great variety of ceremonies; the arrangement of which, even to the smallest trifle, fell within the marshal's province.

The office of *lord high admiral* of England is now held by commission, and is equal in importance to any of the preceding, especially since the growth of the British naval power. The last lord high admiral was George prince of Denmark, and husband to queen Anne. The English admiralty is a board of directions as well as execution, and is in its proceedings independent of the crown itself. All trials upon life and death, in maritime affairs, are appointed and held under a commission immediately issuing from that board,

and the members must sign even the death warrants for execution. But it may be easily conceived, that, as they are removeable at pleasure, they do nothing that can clash with the prerogative of the crown, and conform themselves to the directions they receive from his majesty. The board of admiralty regulates the whole naval force of the realm, and names all their officers, or confirms them when named; so that its jurisdiction is very extensive.

CHAP. XIII.

ON THE COURTS OF LAW.

THE *court of Chancery*, which is the court of equity, is next in dignity to the high court of parliament, and is designed to relieve the subject against frauds, breaches of trust, and other oppressions, and to mitigate the rigour of the law. The lord high chancellor sits as sole judge, and in his absence the master of the rolls.

The *King's-Bench* is so called, from the kings of England sometimes sitting there in person, or because all matters determinable by common law, between the king and his subjects are there tried, except such affairs as properly belong to the court of exchequer. This court is likewise a kind of check upon all the inferior courts of justice throughout the realm; appointing or removing county justices at pleasure, as well as practitioners in the law. Here preside four judges, the first of whom is styled lord chief justice of the king's-bench, or, by way of eminence, lord chief justice of England, to express the great extent of his jurisdiction.

over the kingdom. The other three judges are called justices, or judges of the king's-bench.

The *court of Common Pleas* takes cognizance of all civil actions depending between subject and subject. The first judge of this court is styled lord chief justice of the Common Pleas; and besides him, there are three other judges. None but serjeants at law are allowed to plead here.

The *court of Exchequer* was instituted for managing the revenues of the crown, and has a power of judging both according to law, and according to equity. In the proceedings according to law, the lord chief baron of the Exchequer, and three other barons, preside as judges. They are styled barons, because formerly none but barons of the realm, were allowed to be judges of this court. When this court proceeds according to equity, then the lord treasurer and the chancellor of the Exchequer preside, assisted by the other barons. All matters touching the king's treasury, revenue, customs, and fines, are here tried and determined.

Besides these, there are courts of conscience settled in many parts of England, for the relief of the poor, in the recovery of payment of small debts, not exceeding *forty shillings*.

CHAP. XIV.

OF THE SHERIFFS, AND OTHER OFFICERS.

FOR putting the laws effectually in execution, a high-sheriff is annually appointed for every county by the king, whose office is both ministerial and judicial. He executes the king's mandate, and all writs directed to him out of the king's court of justice. He impan-

nels juries, brings causes and malefactors to trial, and sees sentence, both in civil and criminal affairs, executed. He attends the judges at the assizes, and guards them all the time they are in his county. He likewise decides the elections of knights of the shire, and judges of the qualifications of voters.

As his office is judicial, he keeps a court called the county-court, to hear and determine all civil causes in the county, under 40 shillings. As the keeper of the king's peace, both by common law and special commission, he is the first man in the county, and superior in rank to any nobleman in it, during his office.

The next office to the sheriff is the *justice of peace*, several of whom are commissioned for each county. To them is intrusted the power of putting great part of the statute law in execution, with regard to the highways, the poor, vagrants, treasons, felonies, riots, the preservation of the game, and the like. They examine, and commit to prison, all who break or disturb the peace, and disquiet the king's subjects. The justice of peace ought to be a person of great good sense and integrity, and to have some knowledge of the law. As much power is lodged in his hands, and as nothing is so intoxicating, without these qualifications, he will be apt to make mistakes, and to step beyond his authority.

Each county has two *coroners*, who are to enquire, by a jury of neighbours, how, and by whom, any person came by a violent death, and to enter it on record as a plea of the crown. Another branch of his office is to enquire concerning shipwreck, and to certify whether wreck or not, and who is in possession of the goods.

A *constable* is a very ancient and respectable officer of the peace, under the English constitution. His business is to keep the peace, in all cases of quarrels and riots. He can imprison offenders till they are brought before a justice of peace; and it is his duty to execute, within his district, every warrant that is directed to him from that magistrate, or a bench of justices.

CHAP. XV.

OF CITIES AND BOROUGHS.

THE civil government of *cities* is a kind of small independent policy of itself; for every city hath, by charter from the king, a jurisdiction within itself, to judge in all matters civil and criminal; with this restraint only, that all civil causes may be removed from their courts to the higher courts at Westminster; and all offences that are capital, are committed to the judge of the assize. The government of cities differs according to their different charters, immunities, and constitutions. They are constituted with a mayor, aldermen, and burgesses, who, together, make the corporation of the city, and hold a court of judicature, where the mayor presides as judge. Some cities are counties, and choose their own sheriffs; and all of them have a power of making bye-laws for their own government. Some have thought the government of cities, by mayor, aldermen, and common-council, is an epitome of the English government, by king, lords, and commons.

The government of incorporated *boroughs* is much after the same manner. In some there is a mayor, and in others two bailiffs; all which, during their

mayoralty or magistracy, are justices of the peace within their liberties, and consequently esquires.

The cinque-ports are five havens (formerly esteemed most important ones), which lie on the east part of England, towards France, as Dover, Sandwich, Romney, Hastings, and Hythe, to which Winchelsea and Rye have been since added, with similar franchises in many respects. These cinque-ports were endowed with particular privileges by our ancient kings, upon condition that they should provide a certain number of ships, at their own charge, to serve in the wars for 40 days, as often as they were wanted.

CHAP. XVI.

OF JURIES.

THERE neither is, nor ever was, any constitution provided with so many fences, as that of England is, for the security of personal liberty. Every man imprisoned has a right to bring a writ, before a judge at Westminster-hall, called his *Habeas Corpus*. If that judge, after considering the cause of commitment, shall find that the offence is bailable, the party is immediately admitted to bail, till he is condemned or acquitted in a proper court of justice.

The rights of individuals are so attentively considered, that the subject may, without the least danger, sue his sovereign, or those who act in his name, and under his authority. He may do this in open court, where the king may be cast, and be obliged to pay damages to his subject.

If a man is charged with a capital offence, he must not undergo the ignominy of being tried for his life,

till the evidences of his guilt are laid before the grand jury of the town or county, in which the fact is alledged to have been committed, and not without 12 of them agreeing to a bill of indictment against him. If they do this, he is to stand a second trial before 12 other men, whose opinion is definitive.

In some cases, the prisoner (who is always supposed innocent till there be sufficient proof of his guilt) is allowed a copy of his indictment, in order to help him to make his defence. He is also furnished with his pannel, or list of the jury, who are his true and proper judges, that he may learn their characters, and discover whether they want abilities, or whether they are prejudiced against him. He may in open court peremptorily object to 20 of the number, and to as many more, as he can give reasons for their not being admitted as his judges; till at last 12 unexceptionable men, the neighbours of the party accused, or living near the place where the supposed fact was committed, are approved of, who take the following oath: "*That they shall well and truly try, and true deliverance make, between the king and the prisoner, whom they shall have in charge, according to the evidence.*" By challenging the jury, the prisoner prevents all possibility of bribery, or the influence of any superior power. By their living near the place where the fact was committed, they are supposed to be men who knew the prisoner's course of life, and the credit of the evidence.

These are the judges, from whose sentence the prisoner is to expect life or death. Upon their integrity and understanding, the lives of all, who are brought into danger, ultimately depend; and from their judgment there lies no appeal. They must, therefore, be

all of one mind. After they have fully heard the evidence, they are confined without meat, drink, or candle, till they are unanimous in acquitting or condemning the prisoner.

CHAP. XVII.

ON THE TRIAL OF MALEFACTORS.

THE court being met, and the prisoner called to the bar, the clerk commands him to hold up his hand, then charges him with the crime of which he is accused, and asks him whether he is *guilty* or *not guilty*. If the prisoner answer *guilty*, the trial is at an end. But if he answer *not guilty*, the court proceeds on the trial, even though he may before have confessed the fact; for the law of England takes no notice of such confession. Unless the witnesses, who are upon oath, prove him guilty of the crime, the jury must acquit him; for they are directed to bring in their verdict, according to the evidence given in court.

When the witnesses have given in their evidence, and the prisoner has, by himself or his counsel, cross-examined them, the judge recites to the jury the substance of the evidence given against the prisoner, and bids them discharge their conscience. If the matter be very clear, they commonly give their verdict without going out of the court; and the foreman, for himself and the rest, declares the person *guilty* or *not guilty*, as it may happen to be. But if any doubt arises among the jury, and the matter requires debate, they all withdraw into a room, with a copy of the indictment, where they are locked up, till they unanimously agree upon the verdict; and if any one of the jury should

die during this their confinement, the prisoner is acquitted.

When the jury have agreed on the verdict, they inform the court of it by an officer who waits without, and the prisoner is again brought to the bar to hear his verdict. This is unalterable, except in some doubtful cases, when the verdict is brought in *special*, and is therefore to be determined by the twelve judges of England.

If the prisoner be found guilty, he is then asked, what reason he can give, why sentence of death should not be passed upon him? There is now properly no benefit of clergy. It is changed to transportation or burning in the hand. Upon a capital conviction, the sentence of death, after a summary account of the trial, is pronounced on the prisoner, in these words: "The law is, that thou shalt return to the place from whence thou camest, and from thence be carried to the place of execution, where thou shalt be hanged by the neck, till thy body be dead, and the Lord have mercy on thy soul." The sheriff is then charged with the execution.

All the prisoners found *not guilty* by the jury, are immediately acquitted and discharged, and in some cases obtain a copy of their indictment from the court, to proceed at law against their prosecutors.

CHAP. XVIII.

OF PUNISHMENTS.

THOUGH the laws of England be esteemed more merciful, with respect to offenders, than those which at present subsist in any other part of the known world; yet the punishment of such as, on their trial, refused

to plead *guilty* or *not guilty*, was formerly very cruel. The prisoner was laid upon his back, naked, on the bare floor. His arms and legs were stretched out with cords, and a considerable weight of iron was laid upon his breast. He was to be allowed only three morsels of barley bread the first day, and the next, nothing but three draughts of such foul water as was nearest to the prison door. This was to be alternately his diet, till he expired It was seldom necessary, however to inflict this punishment; and the cruel process is now abolished. By a late act of parliament, the prisoner's refusal to plead is to be considered as a conviction, and he is to suffer the same punishment, as if he had been tried, and found guilty.

The law of England includes all capital crimes under *high treason*, *petty treason*, and *felony*. The first consists in plotting, conspiring, or rising up in arms against the sovereign, or in counterfeiting the coin. The traitor is punished in the following manner. After being hanged on a gallows for some minutes, the body is cut down alive, the heart is taken out and exposed for some minutes, and the entrails are burnt. The head is then cut off, and the body quartered; after which, the head is usually fixed on some conspicuous place. All the criminal's lands and goods are forfeited; his wife loses her dowry, and the children both their estates and nobility.

But though coining of money is adjudged high treason, the criminal is only hanged.

Though the sentence passed upon all traitors is the same, yet with respect to persons of quality, the punishment is generally altered to beheading. A scaffold is erected for that purpose, on which the criminal

places his head upon a block, and the executioner strikes it off with an axe.

The punishment for *misprision* of high treason, that is, for neglecting or concealing it, is imprisonment for life, the forfeiture of all the offender's goods, and the profits arising from his lands.

Petty treason is when a child kills his father, a wife her husband, a clergyman his bishop, or a servant his master or mistress. This crime is punished by hanging. Women guilty both of this crime and of high treason, are sentenced to be burnt alive; but instead of suffering the full rigour of the law, they are strangled at the stake before the fire takes hold of them.

Felony includes murders, robberies, forging notes, bonds, deeds, and the like. These are all punished by hanging; and murderers are executed within 24 hours after sentence is pronounced, and then delivered to the surgeons in order to be publicly dissected. As Sunday, however, is not reckoned a day, they are generally tried on Friday, so that they obtain a respite till Monday. Persons guilty of robbery, when there are some alleviating circumstances, are either transported, or condemned to hard labour in works of public utility, upon the river Thames, &c. for a certain number of years.

Manslaughter is the unlawful killing of a person without premeditated malice, but with a present intent to kill; as when two, who formerly meant no harm to each other, quarrel, and the one kills the other. In this case, the criminal is allowed the benefit of his clergy for the first time, and only burnt in the hand.

Chance-medley is the accidental killing of a man without an evil intent, for which the offender is also to be burnt in the hand, unless the offender was doing an

unlawful act; which last circumstance makes the punishment death.

Shoplifting, and receiving goods knowing them to be stolen, are punished with hard labour for a number of years, or burning in the hand.

Perjury is punished with the pillory and imprisonment. Those who keep disorderly houses are liable to the same punishment.

Petty larceny, or small theft, under the value of 12d. is punished by whipping.

Libelling, using false weights and measures, and forestalling the markets, are commonly punished by standing on the pillory.

For *striking*, so as to *draw blood* in the king's court, the criminal is punished with losing his right hand.

For *striking* in *Westminster-hall*, while the courts of justice are sitting, the punishment is imprisonment for life, and forfeiture of all the offender's estates.

Drunkards, vagabonds, and loose disorderly persons, are punished by being set in the stocks, or by paying a fine.

CHAP. XIX.

OF THE STOCKS, OR PUBLIC FUNDS.

AS there are few subjects of conversation more general than the value of stocks, I shall here give a short account of them.

By the word *stock* was originally meant, a particular sum of money contributed for the establisment of a fund, in order to enable a company to carry on a certain trade, by means of which the person became a partner in that trade, and received a share in the

profit made thereby, in proportion to the money employed.

But this term has been extended farther, though improperly, to signify any sum of money, which has been lent to the government, on condition of receiving a certain interest till the money is repaid, and which makes a part of the national debt. As the security both of the government and the public companies is esteemed preferable to that of any private person; as the stocks are negociable and may be sold at any time; and as the interest is always punctually paid when due; so they are thereby enabled to borrow money on a lower interest, than what might be obtained from lending it to private persons, where there is often some danger of losing both principal and interest.

But as every capital stock or fund of a company is raised for a particular purpose, and limited by government to a certain sum, it necessarily follows, that when that fund is completed, no stock can be bought of the company; though shares, already purchased, may be transferred from one person to another. This being the case, there is frequently a great disproportion between the original value of the shares, and what is given for them when transferred. For if there are more buyers than sellers, a person who is indifferent about selling, will not part with his share without a considerable profit to himself. On the contrary, if many are disposed to sell, and few inclined to buy, the value of such shares will naturally fall, in proportion to the impatience of those who want to turn their stock into specie.

These observations may serve to give some idea of the nature of that unjustifiable practise, called *stock-*

jobbing. The mystery of which consists in nothing more than this. The persons concerned in that practice, who are denominated stock-jobbers, make contracts to buy or sell, at a certain distant time, a certain quantity of some particular stock; against which time they endeavour, according as their contract is, either to raise or lower such stock, by spreading rumours, and fictitious stories, in order to induce people either to sell out in a hurry, and consequently cheap, if they are to deliver stock; or to become unwilling to sell it, and consequently to make it dearer, if they are to receive stock.

The persons, who make these contracts, are not in general possessed of any real stock; and when the time comes that they are to receive or deliver the quantity they have contracted for, they only pay such a sum of money as makes the difference between the price the stock was at, when they made the contract, and the price it happens to be at, when the contract is fulfilled. It is no uncommon thing for pesrons not worth 100l. to make contracts, for the buying or selling 100,000l stock. In the language of Exchange-alley, the buyer is in this case called the *Bull*, and the seller the *Bear*; one is for raising or tossing up, and the other for lowering or trampling upon the stock.

Besides these, there is another set of men, who, though of a higher rank, may properly enough come under the same denomination. These are the great monied men, who are dealers in stock, and contractors with the government, whenever any money is to be borrowed. These, indeed, are not fictitious, but real buyers and sellers of stock; but by raising false hopes, or creating groundless fears, by pretending to buy or

sell large quantities of stock on a sudden, by using the above-mentioned set of men as their instruments, and other like practices, they are enabled to raise or fall stocks one or two per cent. at pleasure.

Grotius, Puffendorff, Locke, Blackstone, De Lolme, and Montesquieu, are writers of the first rank, on Government and Jurisprudence.

BOOK VI.

RHETORIC.

CHAP. I.

DEFINITION OF RHETORIC.

RHETORIC is the art of speaking with propriety on any subject, being derived from the Greek word *reo*, I speak. Its principal end is to *instruct*, *persuade*, and *please*.

The words *rhetoric* and *oratory* are nearly of the same signification. They are often used indifferently for each other, though some distinguish between them as between *theory* and *practice*, making it the business of a rhetorician to lay down rules and precepts for speaking elegantly, and of an orator to use and apply them judiciously in practice.

The art of rhetoric, if taken in its full extent, is almost as ancient as the use of speech; for eloquence moved men to live in society, to give mutual assistance and instruction to each other, to submit to laws, and seriously to consider and regulate their affairs.

Hence it is plain there must be *two sorts* of elo-

quence, the one more *simple*, suited to familiar intercourse, or conversation, and to the ordinary dealings and commerce of the world; the other of a *higher* nature, and more proper for *discourses* and *harangues* in public.

Eloquence has always flourished amongst a free people. Greece was remarkable for it, before it was over-run by Alexander, and his captains; as was Rome, before the introduction of despotism by the Cæsars. I am far from thinking that either freedom or eloquence are confined to a republican form of government. The riches, the honours, and the glorious recompences attending it in Athens and Rome, made it flourish there, and rise to a surprising height; and accordingly its credit failed and sunk, as it lost its encouragement and reward. In every age and country, therefore, where oratory is properly esteemed and encouraged, men will be excited to the study of eloquence, and make vigorous efforts to bring it to its ancient perfection.

Some may think that the art of rhetoric is a matter of little importance, and not worth the labour and application it demands. But let them consider of what use it is, on many occasions, especially at the bar, in the pulpit, and in the senate-house. Let them consider, that *Eloquence*, that fair enchantress, that universal mistress of arts, has been seen to calm and assuage, in a moment, an unruly and mutinous people. She has been seen, in the public deliberations of a confused assembly, to make unhoped-for impressions upon the most obstinate and prejudiced minds. She has been seen in camps and armies, going from rank to rank, giving life and vigour to the soldiers by the mouth of

their generals, and at last triumphing by the arms of those, whom she had first conqeured by her reasons.

CHAP. II.

OF INVENTION AND DISPOSITION.

RHETORIC hath four parts, namely, *invention*, *disposition*, *elocution*, and *pronunciation*.

Invention is the finding out such arguments as are suited, according to the nature of the subject, to instruct, persuade, or gain the assent and belief of our hearers. Arguments drawn from reason are to inform the judgment, or to instruct; those from the affections, are to move the passions, or to *please*.

Nothing concerns an orator more, than thoroughly to understand the frame of human nature. This knowledge will enable him to work upon those affections, which the author of nature has placed in human minds, as secret springs to all our actions. Without the *pathetic*, even the justest reasoning, supported by the soundest learning, will appear a cold, lifeless, unaffecting harangue.

The chief passions are joy, hope, grief, and fear. The rest are anger, love, hatred, envy, compassion, indignation, emulation, levity, modesty, and impudence. Some of these, the orator, as his subject requires, must shew in himself if he intends to work upon the affections of others; for, as Horace observes, in his *Art of Poetry*.

'Tis nature forms and softens us within,
And writes our fortune's changes in our face.
Pleasure enchants, impetuous rage transports,

And grief dejects and wrings the tortur'd soul,
And these are all interpreted by speech.
But he, whose words and fortunes disagree,
Absurd, unpitied, grows a public jest.

In short, to be able to move the passions properly, is one of the most essential qualifications of an orator. As the archbishop of Cambray has observed from Cicero, "The whole art of eloquence consists in enforcing the clearest proofs of any truth, with such powerful motives as may affect the hearers, and employ their passions to just and worthy ends; may raise their indignation at ingratitude, their horror against cruelty, their compassion towards the miserable, their love for virtue, and direct every other passion to its proper objects."

Disposition is the ranging our arguments in the most orderly and proper manner.

The parts of an oration are usually reckoned six: namely, exordium, narration, proposition, confirmation, refutation, and peroration.

In the *exordium*, or beginning of an oration, the orator gives his audience some intimation of his subject, and prepares their mind for attention. In this part, the speaker ought to be clear, modest, and not too prolix.

The *narration* is a brief recital of the whole case, from beginning to end. This ought to be plain and perspicuous, that it may be understood; likely or probable, that it may be believed; pleasing, that it may be willingly listened to; and short, that it may not tire the audience.

The *proposition* proposes the sum of the whole discourse, or matter in dispute. If it divides the oration into parts, which ought never to exceed three, or four at most, it is called *partition.* The beauty of the partition or division is, that it be full, distinct, plain, short, and certain.

The *confirmation* is the strengthening and confirming our cause, by all the proofs and arguments we can obtain from invention. In doing this, the orator places his strongest arguments in the front, when the minds of his hearers are fired with the greatest expectation. His weakest arguments he employs in the middle, where their number may render them of seeming importance. But he makes a reserve of some of the most forcible reasons to bring up the *rear*, because what the audience hear *last* makes the greatest impression.

In the *refutation*, or confutation, the orator answers all his adversary's arguments, and takes off all objections, by shewing them to be absurd, false, or inconsistent.

The *peroration*, or conclusion, recapitulates or sums up the strongest and principal arguments, and endeavours to gain the assent of the hearers by moving the passions. In a conclusion, an orator should always observe brevity and vehemence.

CHAP. III.

ON ELOCUTION, AND THE SEVEN TROPES.

THE parts of elocution are elegance, composition, and dignity.

Elegance consists in the purity, perspicuity, and politeness of language. It is chiefly acquired by reading

the best and most correct authors, conversing with gentlemen and scholars, and by study and practice.

Composition regards grammatical plainness and propriety, by imitating the phrase, idiom, and order of words made use of by the best authors, in the several sorts of stile, whether in the humble, middle, or sublime; or whether the subject be philosophical, historical, or poetical.

Dignity is that which adorns language with sublime thoughts and rhetorical flowers, such as noble tropes, moving figures, and beautiful turns, or repetitions.

A *trope* is the elegant turning of a word, from its natural and proper to a relative signification. It is derived from the Greek word *trepo*, I turn.

The chief tropes in language are *seven;* namely, a metaphor, an allegory, a metonymy, a synecdoche, an irony, an hyperbole, and a catachresis.

> A *metaphor* in borrow'd word compares:
> Thus, for excess, we say a *flood of tears.*

The term is Greek, and signifies *a transferring.* It is the most frequent and florid of all tropes, being a short and sprightly similitude in one word.

We speak metaphorically, when we say, a fine woman is *an angel;* a beautiful country, *a paradise;* man, *a shadow;* Christ, *a vine;* and his followers, *the branches.*

Though the metaphor be chosen on account of similitude, yet it is not properly a comparison or simile. A simile introduces a comparison or likeness, but a metaphor stands for the thing itself. When we say, "The man acted *like a lion,*" we speak comparatively;

but when we say, "The man is a lion," we speak metaphorically.

An *allegory* is a chain of tropes:
I've pass'd the *shoals*, fair *gales* now *swell* my hopes.

The word, which is Greek, signifies a speaking otherwise; for in an allegory we convey our meaning under disguised terms, and liken things to things by continued metaphors, still speaking one thing and meaning another; as *Venus* grows cold without *Ceres* and *Bacchus*. Here Venus is put for *love*, Ceres for *bread*, and Bacchus for *wine*.

To the allegory may be referred the *fable*, the *parable*, and the *simile*.

A *metonymy* takes some kindred name;
Just *heav'n*, for *God*, confounds their pride with shame.

The word *metonymy* signifies a *changing of names;* for by this trope we put one word for another, from some near relation or mutual dependance between them; as, I read *Milton;* that is, his writings. The whole *city* came out to meet us; that is, all the inhabitants. Age is honorable; that is, aged men.

Synecdoche the whole for part doth take,
Or part for whole, just for the metre's sake.

"While o'er thy *roof*, for *house*, loud thunders roll."

The term is Greek, and signifies *comprehension.*—When we say, he has no colour in his cheeks, we take the whole for a part, meaning only *redness*. By this trope a round and certain number is frequently set

down for an uncertain one; as when we say, I have told you of this a *thousand* times, we mean no more than very often.

When a proper name is put for a common, or the contrary, it is called an *Antonomasia*, which is a branch of the metonymy. Thus the *orator*, with the Romans, shall mean *Cicero;* with the Greeks, *Demosthenes*. We call a rich man a *Crœsus*, and a cruel tyrant a *Nero*.

An *irony* the quite reverse intends
Of what it speaks. *Well done! right trusty friends!*

The word is of Greek original, and signifies dissimulation; for by this trope we sneeringly say one thing, and mean the contrary. This, however, is sufficiently discovered either by the tone of the voice, the character of the person spoken of, or the very nature of the thing. Thus, for instance, when we see a little boy behave impudently and undutifully to his father and mother, we are apt to cry out, *A hopeful child, indeed!* Whereas from our accent in uttering the words, as well as from the nature of the case, it is evident we mean quite the reverse. In like manner, if we call a *harlot* by the name of *Penelope*, a woman remarkable for her chastity, or a fool by the name of *Solomon*, the wisest of men, the irony is immediately perceived, as well from the character of the persons commended, as from the exorbitance of the commendation.

Hyperbole soars high, or sinks too low:
He touch'd the skies. A snail don't crawl so slow.

The term is Greek, signifying an over-shooting or exceeding, for by this trope we go beyond the bounds of truth, in representing things greater or smaller, better or worse than they really are, in order to raise admiration or love, fear or contempt. When we say that any thing is *whiter than snow*, or *swifter than the wind*, we speak hyperbolically, in order to carry the idea as far as it will possibly go.

A *catachresis* words abus'd applies:
Over his grave a *wooden tomb-stone* lies.

It is a Greek word, and signifies *abuse*; for by this trope we make use of an improper term, either for want of a proper one, or for the sake of boldness and novelty. Thus, having no appropriate and authorised name for a murderer of his prince, master, child, uncle, or other relation, we call such a one a parricide, though the word in strictness is only applicable to him who has murdered his father. *To ride upon a switch*, is a catachresis; and so is a *brass inkhorn.* The following poetical flight is evidently of the same nature.

"The east wind *rides* the mad Sicilian wave."

The catachresis should never be admitted, but for the sake of necessity, novelty, or energy.

"———— I steer my bark, and sail
"On even keel with gentle gale;
"At helm I make my reason sit;
"My crew of passions all submit.
"If dark and blust'ring prove some nights,
"Philosophy puts forth her lights.
"Experience holds the cautious glass,
"To shun the breakers as I pass."

There is a general analogy and relation, says a judicious writer*, between all tropes. In each of them, a man uses a foreign or strange word instead of a proper one; and therefore says one thing, and means something different. When he says one thing, and means another almost the same, it is a *synecdoche*. When he says one thing, and means another mutually depending, it is a *metonymy*. When he says one thing, and means another opposite or contrary, it is an *irony*. When he says one thing, and means another like to it, it is a *metaphor*. A metaphor continued, and often repeated, becomes an allegory. A metaphor carried to a great degree of boldness is an hyperbole; and, when at first sound, it seems a little harsh and shocking, and may be imagined to carry some impropriety in it, it is a catachresis.

CHAP. IV.

OF RHETORICAL FIGURES.

A RHETORICAL figure is an *emphatical* manner of speaking, different from the plain and ordinary way, and expressing either a *passion*, or containing a *beauty*. I shall take notice of such as most frequently occur.

Apostrophe, addressing, leaves the theme:
He dies—Fade, ye fair flow'rs; be dry, thou stream!

The word signifies a *turning aside*; for by this figure a person in a vehement commotion turns off from the subject in hand, and addresses heaven, earth, groves,

* Blackwall.

rivers, things animate and inanimate; thereby interesting, as it were, *universal nature* in his cause, and appealing to all the creation for the justness of transport.

Prolepsis, to prevent, objects and answers too:
Great things, you'll say, but not too great for you.

The meaning of the word is prevention; for by this figure an orator starts an objection, which he foresees may be made against any thing he affirms, desires, or advises to, and gives an answer to it. We have an example of the *prolepsis* in the following words of St. Paul. "But some men will say, How are the dead raised up, and with what body do they come? Thou fool, that which thou sowest is not quickened except it die; and that which thou sowest is not that body which shall be, but bare grain, perhaps of wheat, or some other grain: But God giveth it a body as it pleaseth him, and to every seed its own body."

Periphrasis takes many words for one:
Now night's pale empress quits her silver throne.

The term means a circumlocution, or speaking round about, that is, using more words to express any thing than are absolutely necessary. Thus in the example, the *moon* is expressed by *night's pale empress*; and the sense of the whole line might be comprehended in these few words, "*It is day light.*"

Climax ascends by steps; *folly breeds laughter,*
Laughter disdain, disdain makes shame her daughter.

The literal meaning of the term is a ladder, the figure

being a gradation or amplification by steps, till the argument and period be beautifully finished.

"The boy despises the infant, the man the boy, the philosopher both, and the Christian all."

The *anticlimax* has a very disagreeable effect, as appears from the two following specimens.

"Not only London echoes with thy fame,
"But also Islington has heard the same."

"Queen Semiramis was the founder of Babylon, conqueror of the east, and an excellent housewife."

In *oxymoron* contradictions meet:
What's love? *A pleasing pain, a bitter sweet.*

The name itself implies a contradiction, signifying much the same as witty foolish, or sharp-blunt. But we must observe, that the contradictions in this figure are only seeming ones; for the members of a period may disagree in appearance and sound, but perfectly agree and be consistent in sense.

Prosopopeia speech to things doth give:
The *stones* cry out, "*Let not the traitor live.*"

This figure, as the name implies, is the *fiction of a person*. Hereby good and bad qualities, virtues and vices, are introduced into discourse as real beings; and by this we likewise give life and voice to things inanimate, making rocks, woods, rivers, buildings, and the like, express the passions of rational creatures. "There lies that murderous knife."—"His stature reached the skies, and on his crest sat *horror* plumed."

Virgil's description of *fame* is a beautiful prosopopeia;

" *Fame*, of all ills the *swiftest* in its course,
" By motion *gathers* and *augments* its force;
" Low *creeps* at first, but swells t' enormous size,
" Stalks through the world, and *towers* into the
" skies."

The sacred writings abound with specimens of this figure.

" Let the *heavens rejoice*, and let the *earth be glad;* let the sea *roar*, and the fulness thereof; let the *field be joyful*, and all that is therein. Then shall all the *trees* of the wood rejoice before the Lord, for he cometh to judge the earth. He shall judge the world with righteousness, and the people with his truth."

Antithesis, which signifies an *opposition of words or thoughts*, illustrates a subject by the introduction of contraries.

" Who sees with equal eye as God of all,
" A hero perish, and a sparrow fall:
" Atoms, or systems, into ruin hurl'd,
" And now a bubble burst, and now a world."

CHAP. V.

OF QUANTITY, ACCENT, AND EMPHASIS.

BY *quantity* I mean the distinction of syllables into *long* or *short*, in reading either prose or verse. This depends on the various sounds of the vowels.

By *accent* is meant that particular stress or force of sound, which the voice lays upon any syllable; and

though the accent is more frequently laid on a long syllable than a short one, it is not so always; nor is the accent always upon the same syllables in the same words. The same word, when it is a *verb*, has the accent upon the last syllable, as to convért, to rebél, to recórd; but when it is a noun, it is accented on the first, as a cónvert, a rébel, a récord.

In order to read well, observe the following directions. 1. Take pains to acquire a perfect knowledge of the sounds of all the letters in general. 2. Pronounce every word clearly and distinctly. 3. Let the tone of your voice in reading be the same as in speaking. 4. Do not read in a hurry, for fear of learning to stammer. 5. Read so loud as to be heard by those about you, but no louder. 6. Observe your pauses well, and never make any, where the sense will admit of none. 7. Humour your voice a little according to the subject. 8. Attend to those who read well, and endeavour to imitate their pronunciation. 9. Read often before good judges, and be thankful when they correct you. 10. Consider well the place of the emphasis in a sentence, and pronounce it accordingly.

By emphasis is meant a stronger and fuller sound of voice, by which we distinguish the accented syllable of some word, on which we design to lay particular stress, and to show how it affects the rest of the sentence. Sometimes the emphatic word must be distinguished by a particular tone of voice, as well as by a stronger accent. On the right management of the emphasis, depends the whole life and spirit of every discourse. If no emphasis be placed on any words, not only is discourse rendered heavy and lifeless, but the meaning left often ambiguous. If the emphasis be placed wrong,

we pervert and confound the meaning wholly. To give a common instance; such a simple question as this, "Do you ride to town to-day?" is capable of no fewer than four different acceptations, according as the emphasis is differently placed on the words. If it be pronounced thus: Do *you* ride to town to-day? the answer may naturally be, No; I send *my servant* in my stead. If thus: Do you *ride* to town to-day? Answer, No, I intend *to walk.* Do you ride *to town* to-day? No, I ride out into the *fields.* Do you ride to town *to-day?* No; but I shall *to-morrow.* In like manner, in solemn discourse, the whole force and beauty of an expression often depend on the accented word; and we may present to the hearer quite different views of the same sentiment, by placing the emphasis differently. In the following words of our Saviour, observe in what different lights the thought is placed, according as the words are placed, "Judas, betrayest thou the Son of Man with a kiss?" *Betrayest* thou—makes the reproach turn, on the infamy of treachery. Betrayest *thou*—makes it rest, upon Judas's connection with his Master. Betrayest thou the *Son of Man*—rests it upon our Saviour's personal character and eminence. Betrayest thou the Son of Man *with a kiss*—turns it upon his prostituting the signal of peace and friendship, to the purpose of a mark of destruction.

CHAP. VI.

ON READING VERSE.

THERE are two ways of writing on any subject, namely, in prose, and in verse.

Prose is the usual method of writing, without any

confinement to a certain number of syllables, or ranging the words in any peculiar form, which, on the contrary, verse requires.

The words in verse must be ranged so, as that the accent may naturally fall on such peculiar syllables as make a sort of harmony to the ear. This is called *metre*, that is *measure*. When two or more verses, near to each other, are made to end with the same or the like *sound*, it is called *rhyme*.

There is another sort of verse, which has no rhyme, called *blank* verse, the words whereof are generally disposed in metre, so as that the accent may fall on every *second*, *fourth*, and *sixth* syllable; and on the *eighth*, *tenth*, and *twelfth* also, if the lines are so long. The following verse of ten syllables may serve for an example:

" The mónarch spóke, and stráit a múrmur róse."

But our poetry allows of great and frequent variation from this rule, especially in the first and second syllables of the line; as in the verse which rhymes with the former, where the accent is upon the first syllable:

Loúd as the súrges when the témpest blóws."

There are two sorts of metre which vary from this rule; one of them is when the line contains but seven syllables, and the accent lies on the *first*, *third*, *fifth*, and *seventh*; as in the following:

" Cóuld we, whích we néver can,
" Strétch our líves beyónd their spán,
" Beaúty líke a shádow fliés,
" And our yóuth befóre us diés."

The other sort has a hasty sound, and requires an accent on every third syllable; as for example:

> "'Tís the voíce of the slúggard; I héar him com-
> "pláin,
> "You have wák'd me too soón, I must slúmber
> "agáin."

In reading verse you are to pronounce it just as if it were prose, observing the stops with great exactness, and giving each word or syllable its due and natural accent; but with these two restrictions, 1. Though there be no stop at the end of a line, make a small pause, (less than after a comma) before you begin the next. 2. If any word in the line has two sounds, give it that which is most suitable to the rhyme and metre.

To favour the metre, for instance, the word *glittering* must sometimes be pronounced as three syllables, and sometimes as two, glitt'ring. And, upon the same account, the word *avenue* may have the accent either upon the first syllable or the second; *ávenue* or avénue. Of poetry there are various kinds.

Pastoral poetry describes a shepherd's life, or that of rural nymphs and swains. *Elegy* is a mournful poem, or funeral song. The *Pindaric* ode, so called from its inventor Pindar, is a sort of poetry which consists of loose and free numbers, and unequal measures. *Satire* is a free, jocose, witty, and sharp poem, severely inveighing against vice, and all corrupt manners and persons. *Comedy* is an agreeable imitation of the actions, humours, and customs of common life. *Tragedy* represents, and acts over again, the calamities of illustrious men and women. The *Epic* or *Heroic* poem, is an interesting relation of some illustrious and important

actions of the hero celebrated in the poem; as the great exploits of Achillis in the Iliad of Homer, and those of Æneas in the Æneid of Virgil. The *Epigram* is an inferior sort of poem, whose peculiar character is brevity, beauty, and a sharp turn of wit at the end.

As to the Acrostic, Rondeau, Echo, &c. they are such trifling pieces of art, that scarce any poet but in a merry vein, or on some jocose occasion, will ever use them.

CHAP. VII.

OF ACTION.

GESTURE or action, the speech of the body, should be decent, moderate, easy, various, and proper to the nature of the discourse. The body must be erect and straight, and apt for gentle flexure on either side.

The head should stand right upon the shoulders; the neck be free and easy of motion; the shoulders not hoisted or shrugged up; nor the arms much projected, except in the vehement affections of joy and grief.

The countenance, which is principally to be regarded in gesture, must be variously expressive of the passions; but always natural, and free from affected airs, grimace, and contortions.

Great use should likewise be made of the hands, especially the right hand, which should frequently be applied to the left breast, and then let fall to the right side. By the hand, in short, we demand, call, threaten, detest, admire, and express our thoughts almost as well as by speech itself.

Stamping with the *foot* is only permitted on the stage.

CHAP. VIII.

OF STYLE.

STYLE is the mode of expressing our thoughts in words. Writers on rhetoric have reduced the kinds of style to three, which they call the plain, the sublime, and mediate. As the business of an orator is to instruct, to please, and to move the passions, these three kinds of eloquence answer all those purposes. The plain style is used to teach, the sublime to move, and the mediate to delight.

CHAP. IX.

OF THE PLAIN STYLE.

PERSPICUITY, simplicity, and exactness are the characteristics of this style. Simplicity of thought, purity of diction, with an inexpressible elegance, which affects more sensibly than it seems to do, are its greatest ornaments. It rejects all pomp, all affectation and varnish, and is very sparing in the use of tropes and figures; but still it requires neat and decent language, and abhors all meanness of expression.

This species of style may be compared to a simple but elegant entertainment, where all the dishes are of an exquisite taste, but nothing admitted that is either too much forced, or too excessive, in sauces, seasoning, and preparation.

The plain style is well adapted to narration and proof, to letters and dialogues, and, indeed, to all ordinary subjects.

With regard to the epistolary style, an easy and genteel way of conveying our sentiments, in the shortest

and most expressive terms, is its greatest excellence. Letters of business require no ornaments, but should inform in a plain and succinct manner. Letters of compliment must have gaiety, but no affectation. Letters of entertainment, persuasion, and condolence, may use ornaments; but an unaffected, easy, neat expression, must shine through all.

CHAP. X.

OF THE SUBLIME STYLE.

THIS is a species of eloquence quite different from the former, being great, rich, and grave. It employs whatever is most elevated, and is most capable of moving the affections; such as noble thoughts, rich expressions, bold figures, and lively passions. This sort of eloquence transports us beyond ourselves, and excites admiration and applause. It thunders and lightens, and, like a rapid stream, carries away and bears down all before it with irresistible force.

This style is adapted to all subjects that are great and uncommon. It is used in tragedy and epic poetry.

There is a difference between the sublime style, and what is called the sublime, or sublimity itself. Suppose I say, "The almighty Author of the universe, with a single word created light." This is in the sublime style; yet it is not sublime, there being nothing extraordinary in it, which another person might not easily have expressed. But that of Moses—"God said, Let there be light, and there was light;" such an unusual turn of expression, which shews the obedience of the creature to the orders of its Creator, is truly sublime.

Longinus, a celebrated writer upon this subject, mentions five sources or principles of sublimity; namely, *a lofty conception*, *a capacity of moving the passions*, *the proper management of figures*, *splendid expression*, and *magnificent composition*.

The first, though rather a natural than an acquired qualification, he advises to keep up and cultivate with the utmost care. He supposes the mind of a sublime genius to have nothing low or grovelling in it, but to be full of great ideas and generous sentiments; it being impossible for those, who have been accustomed to a mean and servile way of thinking, to produce any thing so *sublime*, as to convey pleasure and admiration to posterity. And hence it is, that such sayings as are really grand and lofty have chiefly proceeded from those, who have been remarkable for greatness of soul.

For instance; Alexander's answer to Parmenio is truly sublime, and clearly expresses his elevated sentiments and the greatness of his mind. Darius having offered Alexander his daughter and half his kingdom to purchase peace, "I would accept of such terms," says Parmenio, "if I were Alexander." To which Alexander made this noble reply, "And so would I, if I were Parmenio"

Many examples of the sublime may be found in the works of Homer, Virgil, Milton, Cicero, Demosthenes, and other celebrated writers.

The holy scriptures abound with instances of inimitable sublimity. With what awful pomp and majesty is the Supreme Being represented in the 18th Psalm. "He bowed the heavens and came down; and darkness was under his feet. He rode upon a cherub, and did fly; yea, he did fly upon the wings of the wind."

The same vein of sublimity is to be discerned in innumerable passages of the sacred writings. I shall mention only one more from the book of Job, namely, the admirable description of a war-horse. "Hast thou given the horse strength? Hast thou clothed his neck with thunder? Canst thou make him afraid as a grasshopper? The glory of his nostrils is terrible. He paweth in the valley, and rejoiceth in his strength; he goeth on to meet the armed men. He mocketh at fear and is not affrighted; neither turneth he back from the sword. The quiver rattleth against him, the glittering spear and the shield. He swalloweth the ground with fierceness and rage; neither believeth he that it is the sound of the trumpet. He saith among the trumpets, Ha, ha; and he smelleth the battle afar off, the thunder of the captains and the shouting."

I shall conclude this chapter with an instance of the *sublime*, taken from a modern author, whose writings are deservedly admired by all persons of taste and judgment; I mean Mr. Thomson, who, in his poem called *Summer*, thus loftily describes a storm of thunder and lightning:

" 'Tis list'ning fear, and dumb amazement all:
" When to the startled eye the sudden glance
" Appears far south, eruptive through the cloud;
" And following slower, in explosion vast,
" The *Thunder* raises his tremendous voice,
" At first, heard solemn o'er the verge of heav'n,
" The tempest growls; but as it nearer comes,
" And rolls its awful burden on the wind,
" The lightnings flash a larger curve and more
" The noise astounds; till over head a sheet

"Of various flame discloses wide, then shuts
"And opens wider, shuts and opens still
"Expansive, wrapping æther in a blaze.
"Follows the loosen'd, aggravated roar,
"Enlarging, deep'ning, mingling, peal on peal
"Crush'd horrible, convulsing heav'n and earth."

CHAP. XI.

OF THE MEDIATE STYLE.

THE mediate, called also the intermediate, or equabl style, is a species of eloquence between the plain and the sublime, having neither the simplicity of the former, nor the force and energy of the latter.

It is sometimes called the *embellished* or *florid* style because it admits of all the ornaments of art, the beauty of figures, the splendor of metaphors, the lustre of thoughts, the grace of digressions, the harmony of numbers and cadence.

Quintilian compares it to a beautiful river, whose water is pure and clear, which flows gently, and is shaded on each side with verdant woods.

The mediate style is adapted to any subject of an indifferent nature, not very high, nor very low.

Cicero's Orations comprehend all the species of eloquence, or various sorts of style; but perhaps the young scholar will more easily distinguish them in Virgil, whose *Eclogues* are an instance of the *plain* style, his *Georgics* of the *mediate*, and his *Æneid* of the noblest *sublimity*.

CHAP. XII.

OF THE ASIATIC AND LACONIC STYLE.

THE *Asiatic* style is very diffusive or prolix, abundance of words being used to express little matter. It was so called by the Greeks from the people of Asia, who affected such redundancies.

The *Laconic* style is quite the reverse of the former, being distinguished by its extraordinary conciseness, and by comprehending a great deal of matter under a few words.

It is called *Laconic*, from Laconia, a country of Peloponnesus, of which the chief city was Lacedæmon or Sparta, whose inhabitants were remarkable for writing and speaking in a pithy and concise manner.

The answer of Cleomenes, the Spartan general, to the ambassador at Samos, is an instance of this style. "As to what you have said, the first part I do not remember; the middle I do not understand; the last I do not approve."

As an example of a still more sententious and expressive conciseness, take the following letter:

The Lacedæmonians to Philip.

"Dionysius is at Corinth."

At the time when this was written, Dionysius, who for his tyranny had been driven out of Sicily, taught a *school* at Corinth for *bread*. It was, therefore, a hint to Philip not to proceed, as he had begun, to imitate Dionysius's conduct, lest he should be reduced to the same necessitous condition.

But to carry the matter still farther, the Lacedæmonians sometimes answered a long epistle by a single

word, as they did that of an enemy threatening to destroy them with fire and sword. To this they only returned the poor monosyllable *If*; that is, "Do it you can" This was a very short, but very comprehensive reply.

CHAP. XIII.

ON THE FAULTS OF STYLE.

THE chief faults of style are, its being *tumid* or *swoln*, *frigid* and *puerile*, *dry* and *jejune*.

The *tumid* style abounds with swelling words, which give it a seeming greatness, but within are hollow and empty. Æschylus puts such into Boreas's mouth, on firing a house, viz.

"Whirlpools of flame tow'rds heaven I vomit soon,
"Nor had I whistled yet my fav'rite tune."

These words are magnificently terrible at first sight; but if we bring *whirlpools of flames*, *vomiting towards heaven*, and tbe *whistler Boreas*, to the test of sense and truth, what swoln contemptible bombast will these images appear!

The *frigid* or *puerile* style, affects certain trifling ornaments, insipid jests, remote and strained allusions, and redundant descriptions. Of this frigid puerility we have a remarkable instance in a reflection of Hegesias recorded by Plutarch. Alexander the Great was born the same night that the temple of Diana at Ephesus was burnt to the ground. This accident Hegesias attempted to turn to Alexander's honour, by saying, "It was no wonder the temple was burnt at that time, when the goddess, attending at so great a birth, was not in the way to extinguish the flame."

The following distinction is made by some, between the frigid and the puerile style. The frigid style renders a discourse dry and insipid, by a languor and flatness of expression; and the puerile, or boyish, makes it tiresome and disgusting, by a swelling loftiness and affected amplification. Those who use the frigid style, employ pompous expressions, when the subject requires plain ones; and those who fall into the puerile, make use of low expressions, when the matter requires the most sublime.

The *dry* or *jejune* style is that, which is destitute of ornament, force, and spirit.

A style also may be too *stiff*, or too *loose*, *fluctuating*, and *unconnected*.

CHAP. XIV.

OF CICERO AND DEMOSTHENES.

THESE two orators, though different in style, are both so superlatively excellent in their kind, that it is not easy to determine which of them we should choose to imitate. "The qualities," says Quintilian, "on which eloquence is founded, were alike in both; such as the design, the order, the division, the manner of preparing the audience, and, in a word, every thing that relates to *invention*. But, as to their style, there is a considerable difference. The one is more concise, the other more diffuse; the one pushes closer to his adversary, the other allows him a larger spot to fight on. The one is always endeavouring to pierce him, as it were, with the vivacity of his style; the other often bears him down with the weight of his discourse. Nothing can be retrenched from the one, nor added to

the other. Demosthenes has more care and study, Cicero more nature and genius."

Another judicious critic among the moderns, thus draws their characters. "Demosthenes, from the impetuosity of his temper, the strength of his reason, and the vehemence of his action, had more force than Cicero; as Cicero, by his soft and delicate deportment, by his gentle, piercing, and passionate emotions, and his many natural graces, was more affecting than Demosthenes. The Grecian struck the mind by the strength of his expression, and the ardour and violence of his declamation; the Roman reached the heart by certain charms and imperceptible beauties, which were natural to him, and which were heightened by all the art of eloquence."

Upon the whole, it is best for young persons, especially those designed for the bar, to take for their model the strong and nervous style of Demosthenes, soften[ed] and adorned with that of Cicero; so that the severity of the former may be qualified with the graces of th[e] latter, and that the conciseness and vivacity of th[e] Grecian may correct the luxuriancy of the Roman orator.

On this subject are, "Longinus de Sublimitate," translated into English by Smith; Horace's "Ar[s] Poetica;" Pope's "Essay on Criticism;" Ro[l]lin's "Belles Lettres;" and Blair's "Letters on Rhetoric."

THE END.

Skelton, Printer, Southampton.